LAW AND PROPERTY IN THE MOUNTAINS: A POLITICAL ECONOMY OF RESOURCE LAND IN THE APPALACHIAN COALFIELDS

DISSERTATION

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By

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ABSTRACT

Private property in resource land is a complex matter, sitting at the conjunction of environmental, economic, political, and social systems. This dissertation explores a number of these systems surrounding law and property that link with land use and landscape change in the Appalachian coalfields where the rapid expansion of mining is drastically reshaping the landscape. One economic driver dominates the region, the extraction of coal, which ties to material social and environmental effects, and is driven by social and environmental patterns. Social construction of the institution of private property builds the materiality of private property as something to be owned, but this construction in the Appalachian context has emerged in different form than elsewhere because of the historical and geographical situatedness of the region. The history of accumulation in the Appalachian coalfields is ongoing, fluid, and changing, and, today, has taken on vertical (from beneath to the surface of the land) and horizontal (onto neighboring parcels) spatial forms to enable accumulation of properties adjacent to the coal in all directions. The institution of property law illustrates the multiple and complex interconnections among nature, property, and society. To deal with this disorderliness, the law itself becomes complex, fracturing, and messy and creates material effects as it travels through multiple interactive feedback loops, leading to material effects, most importantly the rapid expansion in the size and scope of Appalachian mining operations. The ideas of private property show that privatization and marketization do not have to

work together as a package. In Appalachia, these separations have led to a collapse in the market for resource land and a devaluation of land *as land* encourages destruction of the now-worthless land as the only rational course of action. The consequences of this include not only environmental destruction of the landscape, but also the social and economic destruction of the people who live there.

Dedicated to the memory of Raymond W. Kiser (July 31, 1918 - May 09, 2007)
Granddaddy

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INTRODUCTION

> We end, I think, at what might be called the standard paradox of the twentieth century: our tools are better than we are, and grow better faster than we do. They suffice to crack the atom, to command the tides. But they do not suffice for the oldest task in human history: to live on a piece of land without spoiling it. (Leopold 1991: 254)

> Appalachia is anywhere there's coal under the ground. - Jesse Stuart (Garrett 1972-73)

Today, coalmines are growing. In the Appalachian coalfields, mountaintop removal mines sprawl over thousands of acres of hills and valleys. Miners blast tons of rock apart with massive explosive blasts to reach thin seams of coal. All rock that is not coal is hauled to the side and dumped in nearby streams and valleys. Streams and ponds that once teemed with life disappear. Hillsides become flat. Sparse grasslands take the place of a lush mixed-hardwood forest. And the coal flows into our power plants, bringing an inexpensive, domestic supply of energy to the United States. Hundred-year floods now regularly visit communities sitting in river valleys. In 2000, an impoundment dam with a Massey Energy mine in Inez, Kentucky, burst, spilling 250 million gallons of coal slurry. (Slurry is a mix of coal dust, water, and toxic heavy metals.) In West Virginia, the late-spring floods of 2001 were some of the worst in living memory. These same communities must face blasting that cracks wells and the foundations of their

homes, as well as the rampages of overloaded coal trucks tearing down small, rural roads. Life changes in the coalfields as the mines grow bigger.

The scale of the landscape change is enormous, close to incomprehensible. Laura Forman, Director of the Ohio Valley Environmental Coalition, described a wasteland: "What I saw was almost beyond comprehension; a devastation, a wound to the earth so great that I stared in disbelief. All around me lay miles of wasted landscape that I can only describe as moon-like, ravaged, and dead. No animals, birds, or plant life could be seen. Companies like Ashland Coal and Massey Coal can make huge profits with this type of operation" (Forman 1997).[1] Mining has long been expanding through the economies of scale: however, the industry has also been growing more complex, causing widely different results when it touches down in particular locations (Crowson 1998).

Even this massive scale of landscape change is not new, but has been happening for hundreds, even thousands of years, in ways that today are hidden from the casual observer (Botkin 1990: ; Cronon 1983: ; Kepe and Scoones 1999). These types of landscape change are one of the major focal points of political ecological study, which works to render the invisible visible (Richards 1990). Engaging in creating visibility allows us to see different causes and drivers, which can lead to a reconceptualization of the problems themselves (Fairhead and Leach 1995). In dealing with landscape, changes are material and physical, and the results of the processes involved are clear, even if the processes themselves may not be. These results provide a beginning, a point from which political, economic, social, legal, environmental, and other processes can be traced backwards.

[1] This letter to the editor is the first mention of mountaintop removal mining (by that name) in the press. Prior to this letter, the method of mining was not publicly treated as different than standard surface mining.

This backwards tracing of mining and landscape change is made more difficult because the benefits of coal (inexpensive electricity, corporate profits, etc.) are located in a different place than that which bears the costs of extraction. This allows for a deliberate obscuring to occur along several parts of the linked systems of change. "What's to like about coal mining? It is hard, dirty, dangerous, inconvenient and ugly. But everybody likes electric power, and West Virginians depend on the money they make from the mining that generates it" (Mining: It's time to calm down and work through this as quickly as possible 1999). Bridge (2001) shows us how this obscuring effect is created through a discursive dialectic that renders the extraction invisible, and substitutes the more pleasant image of the commodity in its place. In this manner, the most drastic reshaping of the earth—the most visible of all environmental change—is made to disappear through an economic sleight of hand. Land becomes commodity, but not the commodity *of land*—rather the commodity of coal, or whatever resource is extracted from the land.

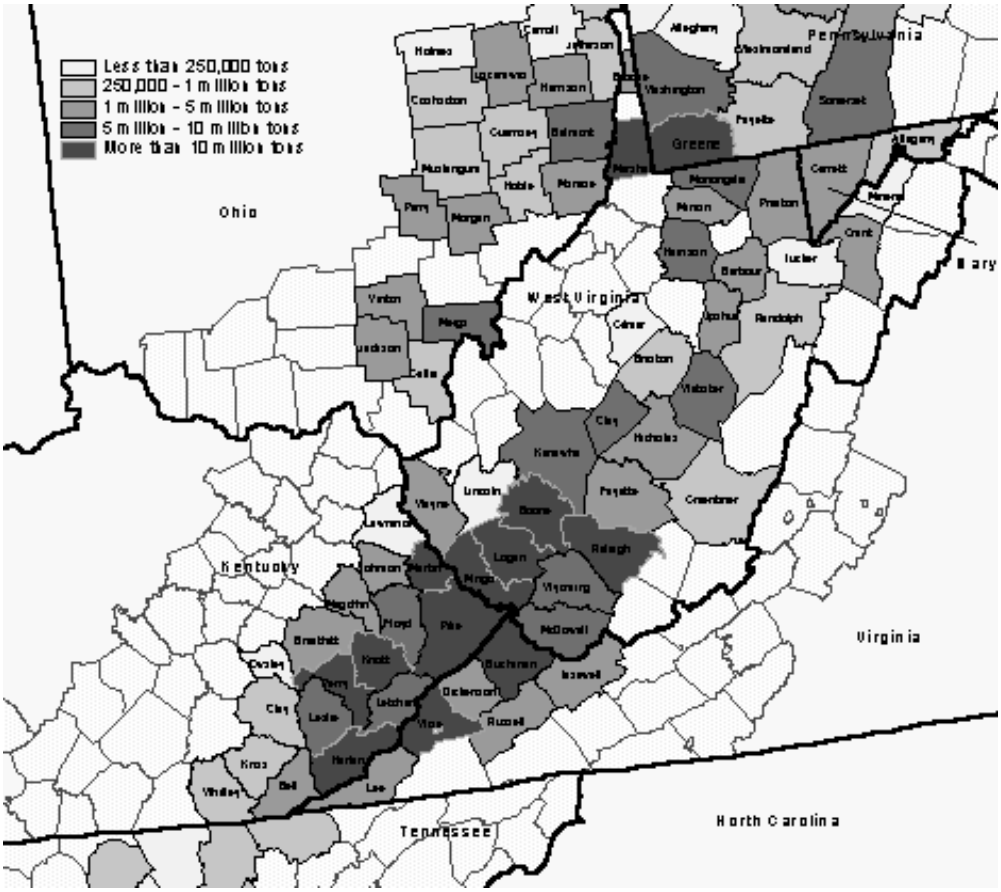

Figure 1.1: Total surface coal production by county in the Central Appalachian Regional Commission Region, 1997
Source: (Thompson, Berger et al. 2001)

This dissertation examines the extractive space of Appalachia, narrowing to the region where mountaintop removal mining occurs, see Figure 1.1. Certainly, changes to extractive space and place are very tied to both globalization and the advance of technology (Vandermeer and Perfecto 1995). However, they are also tied to societal values, which gain institutional purchase through their incorporation into law and property regimes. The Appalachian coalfields provide a fertile area of study because these changes are not only contemporary, but also highly visible, at least within the area

where they occur. The visibility of change creates a visibility to scale, especially the scalar disjoint that occurs in the cost and benefits of mining, and also occurs in government policy, because choices in one area can have profound social and environmental effects in different, and occasionally distant, areas (Basset 1988). Study within political ecology highlights the difficult choices between effects in different places and across spaces, especially in areas where the economy and the environment are seen to be tied in an either/or relationship (Schmink and Wood 1987).

The issue of disparate costs and benefits being borne by very different parties is an environmental justice issue (Martinez-Alier 2001), but it is also tied into conflicting understandings and applications of the ideas of private property. Most of the residents in the region own their small homes and the land they sit upon, having been promised the American dream of wealth-creation and stability through the mechanisms of private property. However, this private property is simply worth less than other private property, that which holds the coal and the key to the region's economy. Additionally, this residential or agricultural property may appear to be the same property that holds the coal because it exists in the same horizontal space. The vertical gaze shows differently—that these lands have been changed into two (or more) sets of private property and the resources vested in a different owner than the surface.

In many coalfield counties, coal is the only game in town. Most of the residents are dependent upon the coal industry, either for direct or indirect employment, or because coal is the major industrial taxpayer. Coal is the biggest business in the region, worth millions of dollars, see Figure 1.2. People who disagree with the choices made by the coal industry can find their lives made very uncomfortable. One married couple in

Pigeonroost Hollow, West Virginia won a preliminary injunction in a lawsuit that prevented the mountaintop removal mine next to their property from expanding. They found themselves charged with criminal dumping for the trash pile that most residents have behind their homes. Their son was harassed on the job while he worked at the mine. And they received direct threats, "Guys told me that if I didn't back off, I'd be found face up in a creek some morning" (Lambrecht 1999). As the mine laid off staff to comply with the judge's order, the local newspaper, *The Logan Banner*, ran the headline: "This is War" (Lambrecht 1999).

	West Virginia	Kentucky	Entire coal-producing part of Appalachia
Total coal production (tons)	173.7 million	120.9 million	467.2 million
Underground coal production (tons)	116.5 million	69.9 million	308.2 million
Surface coal production (tons)	57.2 million	60.0 million	168.0 million
Coal mining employment	18,937	13,061	60,009
Coal mining earnings	$1,246.7 million	$719.6 million	$4,027.8 million
Total coal output	$4530.0 million	$113.7 million	$12,376.6 million

Figure 1.2: Descriptive statistics about the coal mining industry by state, 1997
Source: (Thompson, Berger et al. 2001)
Data source: Energy Information Administration, Coal Industry Annual.

The act of mountaintop removal mining

> **"**No matter how regulators classify and categorize, the procedure is pretty much the same: Blow up a hillside or hilltop, haul off the coal, pile up the rubble (often in the headwaters of a stream), grade it, seed it, move on" (Coal industry given leeway 2000).

Mountaintop removal mining has been called "strip mining on steroids" (Mitchell 2007). Mountaintop removal mining is a large-scale method of surface mining, which today is becoming the normal method of surface mining in the Appalachian coalfields. "The huge machinery puts everything on a grand scale. Mines can cover up to 5 square miles, and they resemble moonscapes. People nearby live with dust, noise, vibration and sometimes damage from the frequent explosions and the constant rumble of traffic and heavy equipment" (Hodel 1998). The term "mountaintop removal" is itself a contentious one, because the process involves removing much more than just the tops of the mountains. Environmental activists call it "mountain removal" while industry groups call it "surface mining" or "mountaintop mining." The name is only the first of many political, social, and environmental battles surrounding this expansion of mining, and the issue has polarized the states of West Virginia and Kentucky, and is spreading into surrounding states.

First, loggers clear-cut the trees. Second, earthmovers remove and segregate the topsoil, then remove the overburden—soil and rock that overlay the coal seam. Waves of explosive blasts loosen the rock, and are followed by waves of heavy machinery that strips and removes the coal for sorting. Twenty-story-tall draglines haul rock and dirt 100 tons at a time in scoops that can hold 26 compact cars. Then, the miners remove another layer of overburden to expose another coal seam. When the mining is finished, reclamation to the form of the mountain is impossible. Instead, reclamation workers

replace the topsoil and cover the land with a low-soil grass. They call the finished product "fish and wildlife habitat" (Ward 1998: ; Loeb 1997). See Figure 1.3 for a graphic illustration of the process.

Mountaintop removal mining covers vast areas of land; mine sites often measure miles in length along a mountain ridge. The mining takes place atop the ridge where few flat places exist to set the removed overburden while mining proceeds. Instead, miners toss this material into the neighboring valley. The Appalachian Mountains within the coalfields area are a ridge and valley landscape built by erosion. Stream run-off from the mountains forms the valleys; thus in filling the valleys, miners bury the streams and clog the watershed. After companies complete removing the coal, the valley has raised, becoming even with the carved-down hill. The result is a level landscape—flatlands where once there were hills (Loeb 1997).

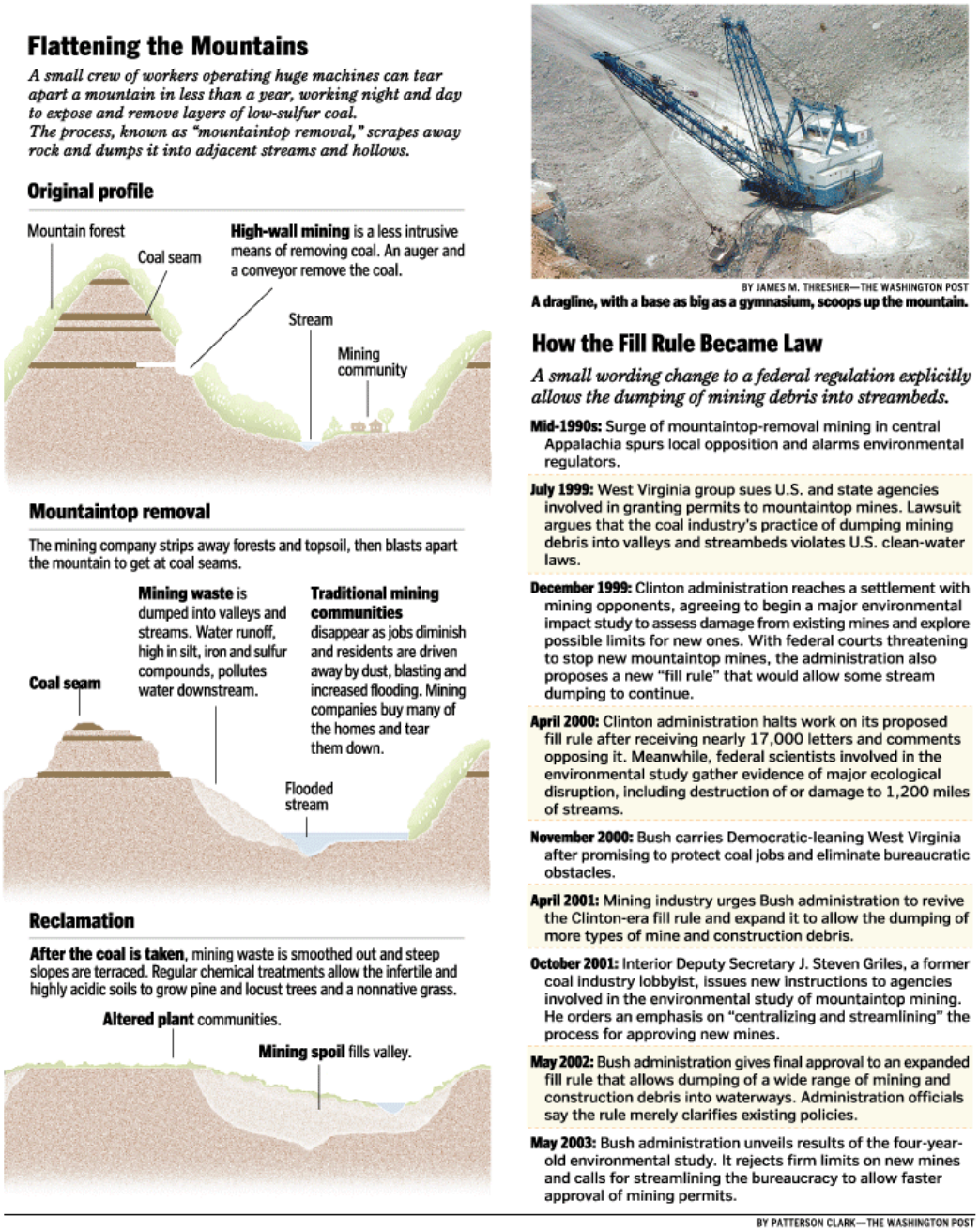

Figure 1.3: Sequence of mountaintop removal mining
Source: (Warrick 1998)

Social constructions, material results

This work sits at the intersection of social construction of nature and the political economy of nature, both of which produce real material and biophysical results. It utilizes these themes to engage in geographic study of law and property as key drivers in these constructions, and thus the material changes that they bring. The term social construction can be misleading. While this work may focus on social ideas and institutions, these are enmeshed fully in material and environmental patterns as well. Appalachia is one entity; and, while is it fully social, it is also fully natural, and change under one heading brings change under the other, not as a dialectic but as a single entity reacting. Change in one area by necessity makes change in another.

Legal geography provides a fruitful point of interaction because law has a particular institutional strength and capacity to shape the material world. Law combines with societal opinions and ideas to create particular views of the environment (Hays 1997). The modern environment is one shaped by humans through their use and views of the environment (Cronon 1997: ; Braun 2002), and these environmental views are also fully social and tied to issues of livelihood and the economic use of land (Harvey 1999: ; Smith 1984). In this social-nature, property law in particular emerges as one lynchpin between law and nature, setting rules that mediate the human-environment relationship. Property is never held independently of the world around it, but rather represents the quintessential interdependent institution (Sax 1971: ; Freyfogle 2006). This relationship between views of the environment and environmental conflict is quite evident in the Appalachian coalfields.

This study also holds a place within political ecology, and helps address one common analytical problem in that discipline. Political ecology has been criticized for

over-privileging the social part of these combined systems, and undervaluing the biophysical events (Vayda and Walters 1999). While this work does focus on the social parts of the system, it also includes the biophysical and material. The framework of political ecological analysis is capable of incorporating complex biophysical systems both beside and entwined with complex social systems. Property and mining necessarily incorporate both the social and the environmental. Socio-environmental systems surround these issues in the form of large and complex interactive feedback loops. Any action taken in one part of these complex and interlinked systems triggers reaction in other parts as well as often triggering new sets of actions. Property law (with its cohort, environmental law) provides an ideal place to examine these complex interactions, as they provide a set of key institutional links between the social and biophysical. Not only do social institutions create material, biophysical effects; but also biophysical change creates social effects. These changes are often not direct results, but interlinked through multiple steps into complex blended systems.

This work expands on those theories by exploring specific sets of social relations mediated through and connected with real, tangible property in land. I will focus on three specific characteristics that must be included in any consideration of property in order to understand the socio-environmental relationships mediated through property as an institution. First, local context shows the complex building of the object of ownership, highlighting its materiality. Second, interconnectedness of that object with a large number of different systems leads to an understanding of the dynamism of property through a creation of disorder. Third, the uniqueness of the individual thing owned must remain part of the equation, for that uniqueness ties strongly to material change.

Methods

Defining the study area

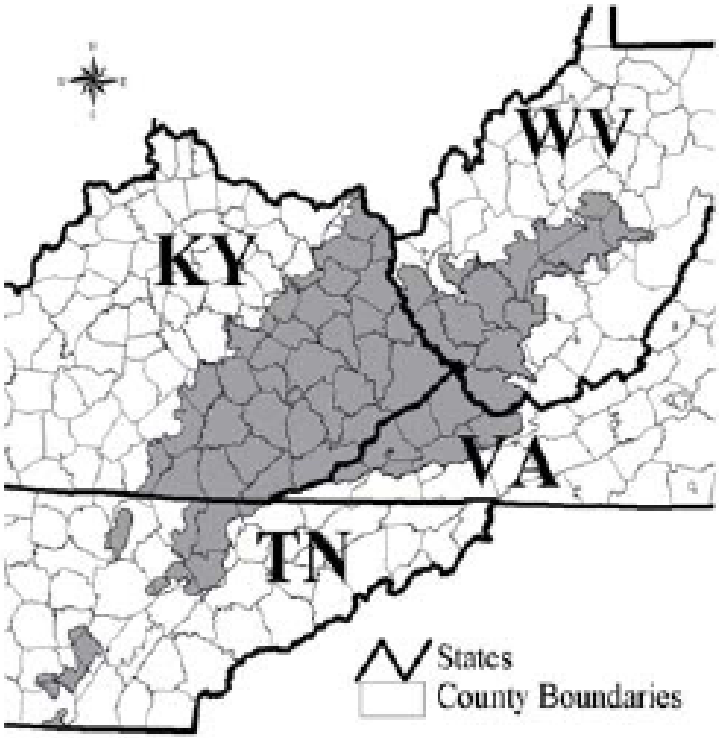

Figure 1.4: The region in which mountaintop removal mining occurs
Source: (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003).

My study area lies in the heart of the Appalachian Mountains. Currently, Southern West Virginia and Eastern Kentucky are the predominant locations where mountaintop mining has taken place, and I chose to define those regions as my study area. The Draft Programmatic Environmental Impact Statement defined the area in which mountaintop mining happens as: "The geographic focus of this study involves approximately 12 million acres, encompassing most of eastern Kentucky, southern West Virginia, western Virginia, and scattered areas of eastern Tennessee. This study area

contains about 59,000 miles of streams. . . . the U.S. Department of Energy (DOE) estimated in 1998 that 28.5 billion tons of high-quality coal (i.e. high heating value, low sulfur content) remain in the study area. . . . Although coal production remains high, productivity gains and new technology have reduced the need for coal miners. Unemployment, poverty, and out migration in the study area are well above the national average." (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003) (ES-2) See Figure 1.4. However, the areas in Virginia and Tennessee host far fewer mines at far smaller sizes than the core area of West Virginia and Kentucky. In order to incorporate legal analysis with the least amount of confusion, I largely limited my legal study area to one jurisdiction—that of the Southern District of West Virginia in the federal court system[2], but did include some Kentucky jurisprudence when it differed from that of the District.

In the 1960's and 70's, this area was a hotbed of the (unsuccessful) movement to ban surface mining entirely. After the passage of SMCRA, that movement lay dormant for many years. However, the shift in scale of mines (along with the complementary problems of flooding from mine dams and coal trucks) has galvanized local activism against surface mining. Many new organizations have sprung into existence since the 1990s, including Coal River Mountain Watch, whose front door is shown in Figure 1.5. Citizens desiring economic development oppose this "environmental" movement. This history of conflict over mining greatly shapes the event occurring today, and I relied on secondary source documents, largely within the field of Appalachian Studies, in order to understand and illustrate the historical and geographic situatedness of the conflict.

[2] Mountaintop removal mining has no real presence within the jurisdiction of the federal Northern District of West Virginia.

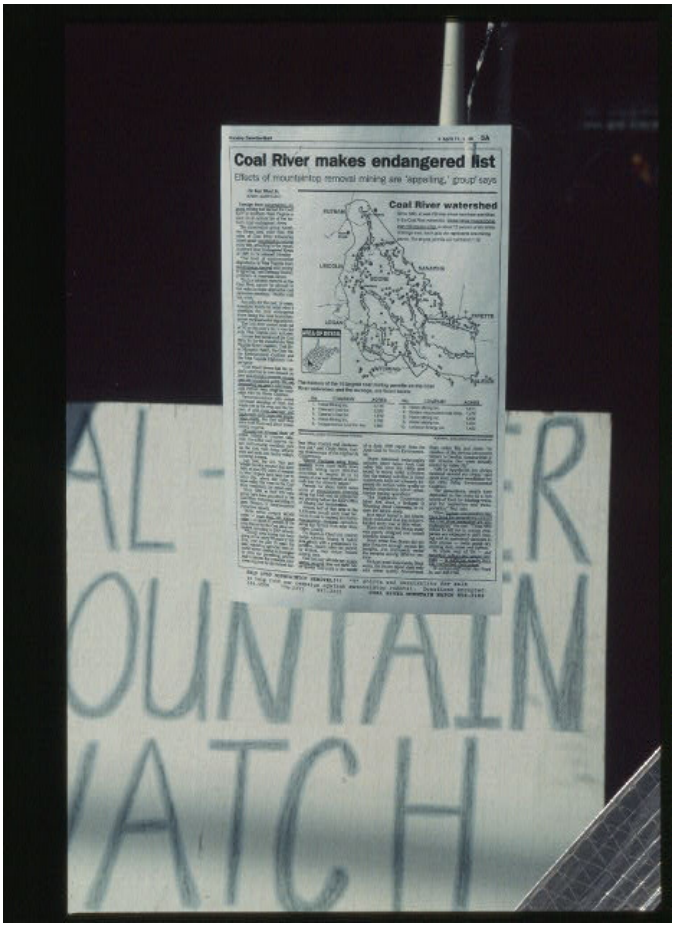

Figure 1.5: Close-up of information displayed in window of Coal River Mountain Watch office
Source: (Hufford 1998)

Legal research and analysis

I began this project utilizing the methodology of legal analysis. Standard legal analysis is a process of finding all relevant legal materials (cases, laws, regulations, and other supporting documents) and applying them to the facts of the situation. It is a logical process of drawing similarities and differences between the actual, existing facts on the ground in any particular given situation and the facts that have been presented before in case precedent and the situations considered by the law-writing legislatures.

First, I surveyed and collected the federal and state environmental laws that affect mining reclamation and post-mining development. I have analyzed the SMCRA (*Surface Mining Control and Reclamation Act (30 U.S.C. sec. 1201 et seq.)* 1977), the Clean Water Act (*Federal Water Pollution Control Act (33 U.S.C. sec. 1251 to 1387)* 1948 (1977)),NEPA (*National Environmental Policy Act of 1969* 1969 (1975, 1982)), and the Clean Air Act (*Clean Air Act (42 U.S.C. sec. 7401 to 7671)* 1977). I added the corresponding state laws in West Virginia and Kentucky. West Virginia provides the focus for this study, with Kentucky included for comparison. West Virginia was the first state to enact a law to regulate the environmental impacts of surface mining (*West Virginia Surface Mining Reclamation Act* 1939). In 1994, West Virginia consolidated environmental agencies (after a massive loss of faith in the ability of the department of energy to regulate mines). However, the state still lacks a comprehensive environmental policy (Flannery, Beckett, and McThomas 1995).

The combination of federal and state agencies with jurisdiction over mining released a draft Programmatic Environmental Impact Statement, which focuses less on the environmental and economic issues surrounding mountaintop mining, and rather on which agencies are best equipped to oversee the permitting process (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003). The recommendations divide responsibilities between the Clean Water Act agencies (mainly the Army Corps of Engineers) and the SMCRA agencies (mainly the Offices of Surface Mining). The study conclusions paid little attention to methods of mining and reclamation or to land use (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003)(ES 4-6). This was followed by a Programmatic Environmental Impact Statement, which

largely adopted the text of the draft statement (U.S. Environmental Protection Agency, U.S. Army Corps of Engineers et al. 2005).

The environmental and other laws surrounding mountaintop removal mining are still passing through the federal and state courts as well as going through great regulatory change. In a time of rapid legal change, I discovered that legal analysis leads to few answers in this case. However, the fluidity and change that I saw within the law caused me pause. The law, at least how I was taught it in law school, is supposed to be a flexible institution, but one that resists change and tends to shift only slowly. Finding no explanation for this rapid legal change within the law itself led me to attempt to find additional sources that would explain the legal structures. Thus, legal analysis provides the background for this dissertation, but, in the end, plays a much smaller role than I had anticipated.

Textual collection

I began to collect and catalog articles from newspapers, environmental groups, and industry groups dealing with surface mining reclamation and post-mining land use. I utilized a variety of internet-based search programs to gather every article available on-line that mentioned the term “mountaintop removal” or “mountaintop mining”, as well as several alternative permutations of those and other key phrases. I collected these articles utilizing the Lexus-Nexus legal and academic databases, a set of programs that surveyed and collected current news releases, and archives searches of several newspapers individually. My resultant data set is a thorough collection of all newspaper articles from major national newspapers, wire services, and the two large West Virginia newspapers dealing with mountaintop removal mining from 1997 until 2004.

Although the exact date of the start of the mining method is uncertain, and it happened sometime between the 1970s and 1997. The phrase "mountaintop removal mining" in reference to the modern technique first appears in the local West Virginia press in 1997, making the jump to the national press in 2001. The first mention of the phrase "mountaintop mining" at all was in the Surface Mining Control and Reclamation Act of 1977 (SMCRA), which created an exemption for mountaintop mining from some of the requirements of reclamation. SMCRA used this term in a more limited sense, for a method of surface mining where miners removed only the top of the mountain. Surface mining in the region began in the 1930s and gradually expanded through the boom of traditional surface mining in the 1970s to the birth of this new method in the 1990s. Over time, the mines would grow and change, while keeping the same name (perhaps for its regulatory benefits) and eventually the press realized that an entirely different sort of mining had emerged.

The major part of my collection is articles from the Charleston Gazette and the Charleston Daily Mail—the two major papers from the state capital of West Virginia. (The Gazette tends to be liberal, environmental, and labor-friendly while the Daily Mail tends to be conservative and industry-inclined.) Interestingly, these events were largely ignored by Kentucky newspapers during the time that I collected documents. All large Kentucky newspaper are located in the western part of the state, and all have closed their eastern Kentucky bureaus. Still, the West Virginia press gives decent coverage of the events in eastern Kentucky. This collection also includes all mentions of the method in major national newspapers, and a large, but potentially less complete collection of all the news articles I could find archived on-line from smaller sources and internationally.

In addition to the programmatic collection of legal documents and news articles, I enhanced the document collection through a variety of other sources. I subscribed to several coal-industry on-line journals to survey their records of the issue. I have searched government archives and traveled to the National Archives and the Library of Congress in Washington, DC to gather information and opinions from the relevant federal agencies, as well as utilizing the on-line records services of these agencies. I gathered additional agency information from the internet archives of the many federal and state agencies involved in implementation and oversight of mining activity in Appalachia. Additionally, I surveyed as many local-interest and environmental group websites, several of which contain their own archives of information collected on mountaintop removal mining.

I attempted to be thorough in my data collection, gathering a full census rather than a sampling of news articles from a core set of sources as well as from the legal documents. This core was collected spanning an eight-year period of time in order to enhance the reliability of my data and create a greater degree of consistency. However, I did find that materials quickly began to repeat themselves following 2002, and therefore most of my analysis focused on the six-year period between 1997 and 2002. This core collection was supplemented by a broader collection of textual materials from multiple sources, in order to enhance the validity of my account and assure that it accurately describes socio-environmental phenomena (Silverman 2000). To collect these supplemental documents, I utilized theoretical sampling, conducting document searches for the purpose of answering questions as they arose in my ongoing analysis and emerging theory (Pidgeon 1996: ; Pidgeon and Henwood 1996). The document

collection continued after 2004, but the cataloging did not. Occasionally, guided by the principles of theoretical sampling, I did utilize later documents in order to address holes in the data and unanswered questions.

Coding and Analysis

To address the dual concerns of the complex events and relations embedded in the idea of land, and the rapidity and uncertainty of change within the law, I decided to dive into this pile of texts using grounded theory based analysis. Grounded theory allows me to sort, group, and categorize texts by meanings and relationships to aid with their interpretation (Crang 1997). Grounded theory is an inductive and data-driven approach, which provided the framework and tools for me to make useful thousands of pages of text. The method utilizes detailed collection, reading, and coding of a variety of textual sources to raise questions and develop theory (Glaser and Strauss 1967). The codes attached to the texts allow for constant comparison between documents, as they can be grouped by any subject code, date, or word that appears in my records. Additionally, utilization of a consistent coding scheme provided some assurance that the patterns I found actually existed in the data, and were less likely to be the result of personal bias (Silverman 2000) (which I readily admit cannot be fully removed from this project).

I utilized the EndNote bibliographic software system to hold my coding of documents. I developed a dual-level coding system upon a preliminary read-through of the documents, based upon commonly occurring themes. The first half of the code listed the overarching area (such as law or mining) while the second half recorded a more detailed reference to which aspects occurred in the article. Each article received as many codes as it addressed topics, which could be as few as one code, to as many as ten codes.

This system follows experimentation with other textual analysis software packages, which could have enabled a more detailed degree of coding, but the short length and focused subject matter of news articles (which comprised the majority of my data) leant themselves better to a simpler system.

Through this grounded-theory based textual analysis, I was able to determine a set of core themes that would through legal, media, and other coverage of the issue (Charmaz 2000). Many themes fit my preliminary anticipations, but others popped up at me from the data. One of the latter centered around repeated mentions of "neighborliness" when discussing the mountaintop removal coal mines (see Chapter 4). People in the community complained that the mines were bad neighbors, while the mining companies publicized their neighborly behavior through such things as the sponsorship of little-league games. In this manner, I was able to focus onto a series of ideas centering around property, land, law, and environment which have explanatory power when looking at the changes happening in Appalachia surrounding the emergence of mountaintop removal mining.

Why I study land

I am a fourth generation teacher from West Virginia, coming from a proud maternal line of strong Appalachian women, each achieving more than the generation before. My mother holds a Masters degree and teaches at a college. My grandmother was the first person in her "holler" (up Jumbo Road in Webster County, West Virginia) to attend high school and she went on to attain a university degree in education. Her mother was a one-armed schoolteacher in a one-room schoolhouse. All that I do is following in

the footsteps of these women who have come before me, and keeping alive their drive to learn, discover, and pass that knowledge on.

I was not born in Appalachia, but rather was part of the Appalachian Diaspora where people poured out of Appalachia seeking jobs and opportunity. My mother married a man from out of the region, who took a job in New York. However, immediately following their divorce, we returned home to our family and the hills because my mother said that was where we belonged. In this pattern, and in the fact that I now find myself living in the Midwest, I follow the great Appalachian tradition of out-migration. My home is a place of great beauty, but poor opportunity.

The issues of mountaintop removal mining found me in the summer of 1999. I had returned home for summer vacation, following my first year of law school in Ohio. I had started law school with a great desire to become a lawyer, and to work for child protective services. However, one year of law school was enough to convince me that my temperament was ill suited for the practice of the law, and I would be the most unhappy lawyer in a profession that is not known for a high level of personal happiness. My goal was to spend the summer working at the local bookstore and finding some goals before returning to finish law school. (Not finishing was never an option, as both my family's strong value for education and my personal drive would not permit it.)

I read a story in the local paper that a group of people from the southern part of the state were bringing an educational protest against mountaintop removal mining called "Mountaintop Cemetery" to downtown Buckhannon at Jawbone Park, an event similar to that illustrated in Figure 1.6. I told my mother and we walked downtown to see the

event. At the time, I was familiar with mining (as are all West Virginians) but had no personal experience with it – and no knowledge of the existence of mountaintop removal.

Figure 1.6: Cemetery, made by Carol Jackson, an artist from Hinton, West Virginia, commemorating streams buried under valley fill.
Source: (Hufford 1998)

At the Memorial, I met Larry Gibson—and while he does not know it, he changed my life. Larry is a small man with a perpetual smile in his eyes, but that smile changes from sad to flashing from one sentence he speaks to another. I spoke with him for a long time, and he told me the story of his family land, land that was being physically removed without the permission of him or his family. I had heard many stories of people being displaced by the onrush of bulldozers for strip-mining, but those people were always able to return, even if their return was several years later to a piece of land that was “all tore

up." Something different was happening to Larry's family farm – it was physically being removed from the surface of the earth, as illustrated in Figure 1.7.

Figure 1.7: The mine on Kayford Mountain or Larry Gibson's family farm
Source: (Pacyniak and Chandler 2007)

I thought of my family's land, not that I had any sort of ownership connection to the property (my grandmother's education was her inheritance), but the land was always there and the entire Brady clan knew that if hard times fell upon us we could go there. When I was young, my uncle went to the property to perform an informal survey. He returned telling us of a stand of large trees, all straight, tall, and so wide in circumference that one could build a cabin from a single tree. My great-grandfather had tended those trees carefully, and he had planned them as an insurance policy for his descendants, so no one would ever be homeless, as long as they could use their hands and engage in the hard

work necessary to build a house. I remembered visiting there as a child: dressing up in long pants and flannel shirt in the heat of summer to pick buckets full of blackberries, dipping for crawdads in the stream behind the house, and travelling to the out-house which sat just a little too close to the bee-hives. I remember climbing through the tumbledown shed that used to be my Great-granddaddy's store up until the Great Depression. He had a bigger heart than he had business sense, and ended up losing the store by literally giving it away, piece of inventory by piece of inventory extending credit to neighbors in need. My family's land is all that and more. It is our tie to history and our tie to our selves. It partially defines our being, both as family and as Appalachians, through our interactions with its materiality.

At the memorial, Larry Gibson showed me picture after picture of his land—a barren stretch of uneven rock as far as the eye could see. He piled me up with newspaper articles and literature about mountaintop removal mining. He told me I had to do something. Now, I am certain he did the same with every person he met, hoping for letters to the editor, or lobbying of representatives, or such. Perhaps he had nothing quite so clear in mind and just knew that he had to let his fellow Appalachians know about the changes to his land—our land.

I went home thinking about what I could do, a young female from the central part of the state, trying to get an education. I had no money, no connections, and no real ability to do anything. Then, I thought about the women who had come before me, and they led me to my answer – education. I was a student and I could study this. If I could figure out how or why these changes were happening, perhaps I could help Larry and others whose land was disappearing. Of course, at the time, I thought education was

more like investigative reporting or private sleuthing and that I would find solutions, in which I would find myself proven very wrong. Still, I returned to law school with a drive because I knew what I needed to get out of my education.

I finished law school finding I knew a lot about property and mining and environmental law, and I knew little about the real answers to my questions. I decided more school was the necessary course of action in sought a program in which I could continue to study mountaintop removal mining, and stumbled into a doctoral program in geography. I was seeking any theory, any plan, any idea that would help me make sense of what was happening in my home state.

My family is mystified by my fascination with coal mining. We are not a mining clan, but of farming stock. Many of them still think I am a geologist, not a geographer because I research coal. however they all understand, once we get past all the technicalities, that what I am truly interested in is land, not just land as property, or land as a resource, but land as Land with a capital "L". This Land is, indeed both property and resource. It is also a functioning ecological system with bees, crawdads, streams, and blackberry bushes. It is also a tie to history, family, and identity. But those things only begin to scratch the surface of the multiple values that humans tie to the plots of earth called land.

During the process of writing this dissertation, my relationship to the land has changed. My Great-uncle Sylvester, who lived on the land, died. His life-estate ended. (As the one of the thirteen Brady offspring who chose to remain on the farm, he had a life interest in the property to live there and use it). Upon his death, state laws of succession were triggered and a division of my Great-granddaddy's estate was ordered by probate.

Every one of his children were to receive an equal, but indivisible share of the property. As few of his immediate offspring were still alive, these shared filtered down to his many grandchildren in shares of greatly differing sizes. My Gramma is still alive, and therefore the share for my lineage would belong to her, but she called her five children together to a family meeting to determine how to treat the property. Together, they made the difficult decision that while emotionally each wanted to maintain his or her tie to the family land, as a matter of practicality, none of them would ever live there. They decided to all sign a quitclaim deed, granting their rights to my cousins Ralphie and Mousie. (I use the word cousin loosely, as they are my second cousins, once or twice removed – I am not certain. In West Virginia, all people of that sort of relation are lumped under the term "cousin.") In exchange, my family received a permanent invitation to visit any time and stay in the second house.

This happened while I was away at school, and my mother took the trip with my Gramma to Webster County to deliver the documents, tie up loose ends, visit family, and, of course, take a last look at the land. My mother said it was a good thing I could not be there, as it was one of the most difficult things she has ever had to do. The difficult part was not saying goodbye to the land, but seeing it again. Uncle Sylvester was poor, and simple, and the Webster County family had their hands full caring for him. In order to get the money to do so, they sold off rights to the land piece by piece. The tall stand of trees is gone, as the timber rights were sold. My mother said that the mineral rights had probably been sold off as well, although no mining had yet taken place on the property. Additionally, as he grew older, Uncle Sylvester was unable to care for the property and the entire farm has fallen into massive disrepair. My mother said she would never go

back again, and discouraged me from doing so. My tie to the land is completely and legally severed, but that does not mean it is gone.

Perhaps more importantly, with our without my tie to it, the land remains there. While I will probably never go to see the farm again, I know that there is a plot of the earth that holds the meaning of land for me. That is why Larry Gibson's story hit me so hard, because in many ways, his land ceased to be. Certainly, the acreage remains – and, after mining, it will probably be reclaimed with new topsoil placed on top and seeded with some hardy grasses. But at that point the land has changed in nearly all qualities and characteristics that it once possessed. The mountains will be flattened. The streams will not wind along contours. Trees, sheds, bees, crawdads, and blackberries will all be gone. Some of these things are ephemeral as a crawdad's life in undoubtedly short and even an old tree will die in a few hundred years. There is something about removing the mountain, an entity that exists on a geologic timescale so far beyond our own that sends shivers down my spine. I fear we are doing something irreversible and beyond our understanding.

Argument and structure of the dissertation

This dissertation will touch down in a number of points in this complex pattern, all with the focus of understanding changes to the land, but also using the land to understand changes in society.

Chapter 2 is an introduction to the place of the Appalachian coalfields with its socio-environmental linkages. One economic driver dominates the region, the extraction of coal, which ties to material social and environmental effects, and is driven by social and environmental patterns. This chapter will review the geography and history of the

region, examining the very real and highly complex social and bio-physical processes that formed it into what Appalachia is today and providing the context for the expansion of mountaintop removal mining. Appalachia is changing rapidly, and through a tracing of these changes over time and space, it becomes easier to understand both law and property as well as how they tie to both socio-environmental and political-economic change.

Chapter 3 traces the history of accumulation in the Appalachian coalfields as ongoing, fluid, and changing. The original and ongoing processes of primitive accumulation of coal lands set the stage for the expansion of mining that is happening today. This study illustrates Michael Perelman's contention that primitive accumulation is ongoing (2000) and David Harvey's contentions that primitive accumulation is constantly changing as a fluid response to the potential crises in capitalism (2003). The chapter works through the waves of accumulation as they happened in Appalachia, showing a disorder and flux between phases of primitive, capitalist, and blended accumulation, as well as a variety of different types of primitive accumulation. Then, it examines the current wave of accumulation in mountaintop removal mining, which has taken on vertical (from beneath to the surface of the land) and horizontal (onto neighboring parcels) spatial forms to enable accumulation of properties adjacent to the coal in all directions.

Chapter 4 focuses on the context of property through illustrating the social construction of real property in land in the Appalachian region. This social construction is one step towards building the materiality of private property as something to be owned. While property as an object has many physical characteristics that exist independently of

its social situation, it also has characteristics imbued with a social character. Property also affects and is affected by the physical characteristics of the land. Private property in land has a variety of complex and different natures, and understanding the local context is a necessary first step toward seeing the impacts of private property. The social constructions of Appalachia and Appalachians often conflate the identity of the people with the identity of the land and landscape. The people are othered in ways that tie directly to landscape, they are termed hillbillies, and their social condition is largely blamed on the isolated and mountainous landscape in which they live. This process creates an interesting construction, where the solution to the people's problems can be changing the land itself.

Chapter 5 is a short chapter that narrows this examination to the religious construction of private property. A scattered number of Protestant denominations dominate the religious landscape of Appalachia, and share a variety of beliefs and characteristics while maintaining fierce independence. These religious beliefs play a particularly strong role in shaping beliefs about private property and landscape through creating a series of tensions. The beliefs simultaneously revere private property as a mark of God's favor and revile it as a sign of being too involved with Satan's earth. These beliefs set the stage for a unique complacency that strengthens the property rights of extractive industries while ceding to a weakening of personal property rights.

Chapter 6 examines the interconnectedness of property through use of the institution of property law to illustrate the multiple and complex interconnections among nature, property, and society. The law finds itself claiming to be a bastion of order while simultaneously dealing with a wide variety of highly disorderly and complex systems.

To deal with this disorderliness, the law itself has taken on characteristics of disorder and has become more disorderly over time. Thus, the law itself becomes complex, fracturing, and messy and creates material effects as it travels through multiple interactive feedback loops. Property law, more than other branches of legal study and application, has exhibited characteristics of chaos and complexity from its early days. This chapter examines several of the legal institutions of property that have taken on these disorderly characteristics and ties them to some of their material effects, most importantly the rapid expansion in the size and scope of Appalachian mining operations.

Chapter 7 re-introduces the uniqueness of private property; using property theory to examine the creation of physical change in the land. The standard explanation follows this pattern: land is commodified as private property for which the market acts as the regulator of land use by setting values. This work follows Noel Castree and Karen Bakker in showing that these forces do not have to work together as a package (Bakker 2003: ; Castree 2003); they may be separated completely or operate in odd conjunctions. In Appalachia, these separations have led to a collapse in the market for resource land. More than that, the valuation function of the markets as they operate has stripped resource land of all the values it represents other than that of the coal it contains. This valuation encourages destruction of the now-worthless land as the only rational course of action. The consequences of this include not only environmental destruction of the landscape, but also the social and economic destruction of the people who live there.

Land

This dissertation focuses on the idea of land as a sub-set of the natural or environmental realm as well as of the social realm. Land is a key point in many social

struggles, and the laws that regulate land provide one important way to resolve these struggles, but these same laws often create more conflict in their application. Conceptions of both land and ownership are encoded into legal description of and decision-making about property. Resistance to political choices made about property is inherently interwoven into conceptions of what is property and what is land (Blomley 1998). Traditional property understandings treat undeveloped rural land as a blank slate. Land is inert, and simply waits for humans to use it, improve it, develop it, and extract its value. Meanwhile, an ecological understanding sees that same piece of land as already working, growing trees, filtering water, housing animals, and the like (Sax 1993). Land has a tangible, material, and bio-physical existence—it is nature and the environment—and, thus certainly not an inert container for human action.

To understand the choices made about land use, one must first look at the multiple factors that shape those decisions. Geographical study of the social construction of nature focuses on how understandings of the social processes enter understandings of the natural. One of these trends linking social and environmental is the commodification of nature as a good for consumption (Smith 1996, 1984). Nature has an inherent materiality, which can be commodified in different ways depending on the particular nature and the particular needs of the society doing the commodification (Castree 2003). In the case of mining, some development officials and consumers of natural areas construct post-mined landscapes as non-pristine, marginalized, and ready for further human consumption through recreational use (McSweeney and McChesney 2004). Such changes in production and consumption belief patterns can emerge in physical manifestations on the landscape, which in turn shape social changes (Knox 1991).

Further, cultural notions about this commodified natural world shape and are shaped by the political decision-making process (Mansfield 2003), resulting in laws that privilege some land uses over others. Understanding any landscape involves examination of social concepts and processes in which it is embedded (Mitchell 2002). Thus, disagreement over mining lands, their ownership, and their use becomes environmental conflict and part of the process that shapes economy, society, and law.

Property Law

Law built from individual cases and controversies is constructed post hoc, dealing with a problem after it has arisen (Frank 1949). Thus, the law evolved in a manner that maximized its potential towards chaos. The cases are decided in regard to other, preexisting laws, and also the general ideas of property that are dominant in society at the time of the case, which also change over time. This system preserves themes of property and some policy goals, but within the legal system, courts and scholars hold external principles to be secondary to pre-existing laws, minimizing the unifying influence that they may have imbued into the court-decision process. Both these principles and laws are applied to the facts of the case as they appear, leading to rulings that react to very particular circumstances. A common adage is that "interesting cases make bad law" as rulings fitting defined situations often have lessened general applicability.

Through these processes, private property has emerged as a relational institution. It sets rules for the interaction of humans with other humans. Property emerges as a performance, a series of continual human actions that reinforce, contest, define, or delimit its being, and is, thus, not static, but rather in a constant state of flux (Rose 1994). The law is only one part of this performance, but it is one that has been written, codified, and

given state enforceability (Watson 1977). Society has developed a variety of institutions to enact this enforcement, giving the law a status different from otherwise-similar social bodies. Meanwhile, as new cases appear before courts, the performance continues to constantly be enacted, creating greater complexity as it rolls along.

"Where there is a legal right there is also a legal remedy" (Blackstone 1979). In order to be able to claim the operations of the law, one must first establish a right to the property. The strongest of these rights are the ownership rights, but they are not all the same and operate in different ways, triggering different remedies and protections of the law. This principle is often framed as operating in the reverse direction, "to limit the remedy is to limit the right" (Delaney 1995: 59). By creating differently operating legal remedies, the courts restructure the basic property rights that underlie them. Recognition of legal rights is shaped and informed by how the groups making the decisions interpret geographical facts (Delaney 1995). In real property, these involve interpreting physical and environmental shapes and spaces as well as the social spaces that overlay human interactions.

Three Questions

Three questions drive this dissertation. At times, they swirl nebulously around a conjunction of land, law, property, and people. At times, they land to focus on the particular workings of an individual situation. At all times, they drove this research.

My first question is: why do people allow mountaintop removal mining to happen? This question breaks down into who are the people who allow it and who are the people who are fighting it? This can be answered simply that most of the people in the Appalachian coalfields have strong opinions—both pro and con—on the issues of

mountaintop removal mining. Some people have more of a stake in it than others—those who work in the mines and those whose property and community are affected. Some people have more power over decision-making than others—largely those within the government regulatory structures. This question follows with a second half: how are the mining operations getting away with making such rapid and destructive change? My research has led me to find some answers in the ideal of property ownership, which has great power in Appalachian and American society. More than simply property, additional answers can be found in the ideals of land as a holistic concept. This conceptualization of land includes ideas of property, rights, and duties, but it also includes trees, sheds, bees, crawdads, and blackberries. Land is cultural, historical, and tied deeply into ideas of personal identity and value within society. All of these concepts of land blend together into a whole, and drive the complex decision processes which govern land use and landscape change.

My second question is, given these disparate voices and disparate amounts of connection and power, what role does law play in these situations? My research shows that the interaction of law is nowhere near as straightforward as is may seem. The standard activist answer would say that, of course, those with power and money control the legal system. The standard legalist answer would say that, no, the law is neutral and operates as a mechanism producing decisions given the particular set of activities on the ground. I believe both of these conceptualizations are wrong, and that law, instead, is disorderly, fluid, and changing at its core. Those actors most suited to dealing with this disorderliness are the winners, and while this can be a function of money and power, it does not need to be. So far, this disorder within the law has driven the speed and size of

mining operations, as the logical course of action for a mining method over which the rules may change at any time. I suspect that this pattern is not limited to the Appalachian coalfields, but do not yet know, and plan to explore the generalizability of these theories in later research. Meanwhile, this dissertation will explain how, at least in this situation, a disorderly law works and creates material results on the landscape.

Finally, my third question is, given this rootedness in a holistic conceptualization of land, what role does property as conceptualization and practice play in the growth of mountaintop removal mining. Land is a complex entity, it is a bundle of characteristics that can be partially, but never fully, separated out for study. It can be visualized as clusters, as layers, and as interconnections, fully social and fully natural simultaneously. These qualities make land difficult to know and to understand, and even more difficult to study. Thus, I have narrowed my analysis to one set of relations that land embodies—the relations of property. However, I have attempted to do so in ways that do not minimize the activity of all the other characteristics of land. These operations of property privilege certain parts of a holistic land, creating one operation of land in markets, which is quite different from the operations of land as a holistic entity. Extraction values become separated from and prioritized over community values in practice because of the ways which we conceptualize property.

The interactions of these forces of law, property, economy, and society on, with, and through the physical landscape are at the center of this dissertation. It responds to the calls from many scholars for specificity in linking the environment and the human systems that interact with it. This one particular capitalist commodification of resource land in the Appalachian coalfields fails in that it treats land as everything but land. Land

is a symbol of the identity of the people, and the cause of their social problems. Land is a repository for the value of the coal that can be taken from it. Land is property, the marker of social wealth, control, and worth. Land has ceased to be treated as a biophysical entity, although it has never ceased to operate as one. The result is the rapid expansion of one of the most destructive methods of resource extraction ever developed—mountaintop removal coalmining. This method leads to the destruction of many of the biophysical properties and functions that the land contain. In turn, this destruction eradicates people, communities, property, and value.

CHAPTER 2

A REGION IN, BUT SOMEHOW NOT OF AMERICA: AN ENVIRONMENT-SOCIETY DESCRIPTION OF THE APPALACHIAN COALFIELDS

> A strange land with peculiar people . . . a region in but somehow not of America (Shapiro 1978).

Environmental change happens in place, and in order to understand the breadth of that change it is necessary to look in-depth into the place. This understanding of place is at the core of both the regional and the political ecology traditions within geography. These same political, economic, and environmental patterns would work differently in a place with a different cultural background because it is the historical and geographical situatedness that colors and shapes the contact of the global with the local (Massey 1983). It is through this process that both the local and the global make each other (Massey 1994). In order to understand the environmental patterns caused by mining, one must first understand the region.

Any study of the political economy of Appalachia, so tied to the extraction of coal, must incorporate the environment as well as human factors. Human and environmental systems do not and cannot exist separately; rather they are so thoroughly entwined and implicate each other that it makes no sense to study them in isolation (Latour 1998). Any environmental policy is entwined with political-economic change, and vice-versa (Castree 2002). Both of these sets of changes are tied to power and inequality, which become highly visible with an examination of extractive industries

(Bridge and McManus 2000). Thus, analysis of Appalachia must start with the historic-geographic situatedness of the region. These regional identities evolve over time to create layers interacting with each other and shaping the material reality that emerges (Massey 1993).

Appalachia itself is a complex and contested concept, and even marking it on a map becomes a political exercise (McCann 1998). The focus of this work narrows to a region that includes southern West Virginia and eastern Kentucky, the area in which most mountaintop removal mining happens. However, even calling that region the southern coalfields is contested as over-conflating the identity of complex people in a complex region to a single economic identity. While King Coal has been a dominant driver shaping change in the region, it is far from the only one. Political ecology examines this complex web of connections to understand key parts of the human-environment relation. This short summary of the history and geography of the region focuses on the concepts of property and landscape because these are key to understanding human relations to extractive land. In order to understand the landscape of mining, it is necessary to see the character of extraction as dynamic, and not simply a passive withdrawal of substances from the earth to feed into the capitalist machine (Walker 2001). These processes link to and interact with a variety of other processes, both human and bio-physical.

This chapter sets the stage for further exploration into socio-environmental linkages as made visible by mountaintop removal mining. It lays the historical and geographical background upon which processes, such as law and property, operate, providing some key points of context that make understanding the convolutions of these complex systems more easy to understand. Nature-society relations are formed not only

through tangible bio-physical processes, but also through equally real social relations, both of which this chapter will summarize. First, this chapter places the current episode of mountaintop removal mining in its context. Second, it gives a brief explanation of the physical geography of the area. Third and fourth, it turns to culture and then identity of the Appalachian people. Next, it places these forces within the economic context, looking at the extractive history of the region and then placing that extraction within the frequently-utilized post-colonial context. Finally, it returns to the conflict over mountaintop removal mining, looking at the particular form that this conflict takes because of the place in which it happens. These materials provide an understanding of place, and Appalachia as a particular place, explaining why Appalachia can be used as a framework for a greater understanding of ideas of law and property and how they tie to socio-environmental and political economic change.

Nature-society relations mediated through a coalmine

> A million years to make a mountain
> A hundred years to grow a tree
> A few short days with a big bulldozer
> Will send it all down to the sea.
> (Carawan and Carawan 1975)

The Appalachian coalfields of southern West Virginia and eastern Kentucky are where mountaintop removal started, and where it has the longest history. As yet, mountaintop removal mining only occurs in a small region of central Appalachia. Most of the mining occurs in the states of West Virginia and Kentucky, while recent operations have expanded into Tennessee and Virginia. Modern mountaintop removal mining has only been happening for the past decade, yet its occurrence is undeniably tied to the historic and geographic situatedness of the region. In order to understand how and why

this expansion of mining has happened, it is necessary to explore the history and geography of the region.

Mining is concentrated in a few places within the region, and these places are utterly dependent upon the single industry. Within West Virginia, four counties, Boone, Logan, Mingo, and Kanawha, account for 47 percent of the total state coal production, including mountaintop removal mining and other styles of mining. Southern West Virginia hosts larger mines, with three times the production (684 thousand tons per mine) of mines in eastern Kentucky (267 thousand tons per mine) (U.S. Department of Energy 1998). With each year that passes, mining becomes more concentrated, and more coal is coming from the mountaintop removal sites. These mines can produce an incredible amount of coal, with a typical mine producing between 1,000,000 and 2,500,000 tons per year (US Army Corps of Engineers, US Environmental Protection Agency et al. 2003). Still, the history and culture of the larger region are very much tied to both its mining history and its place within the mountains.

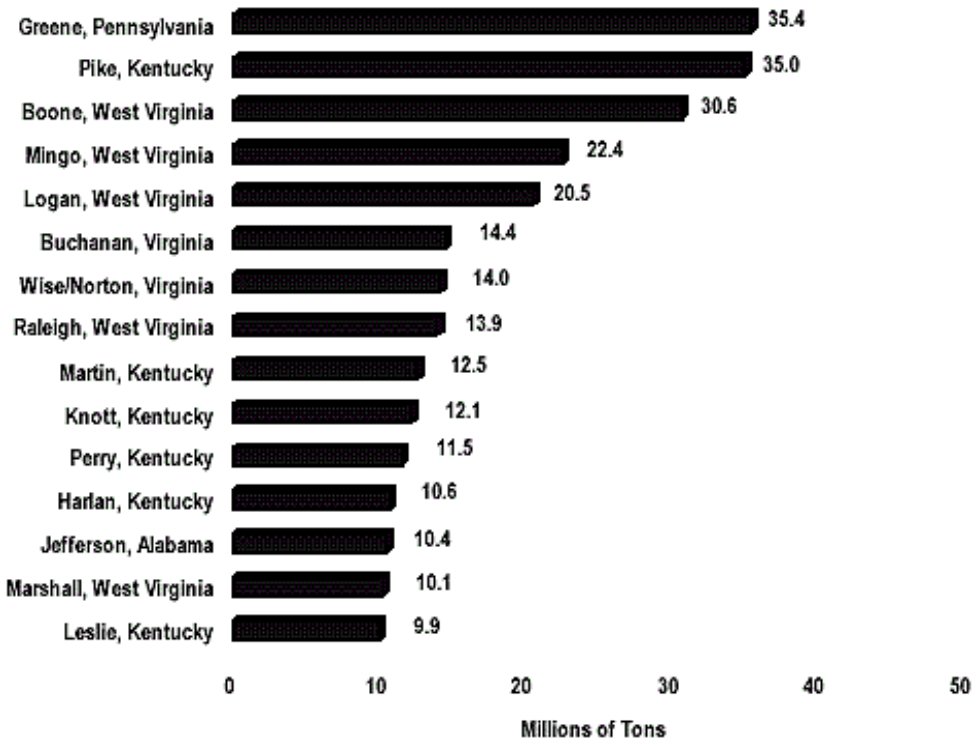

Figure 2.1: The fifteen Appalachian counties with the highest coal production, 1997
Source: (Thompson, Berger et al. 2001)

Coal mining is a dreadful necessity. American society needs the energy produced through coal to continue its existence. Between 1989 and 1999, West Virginia lost 10,000 mining jobs (Ward 1999). "In 1998, West Virginia mines produced 181 million tons of coal, more than any other state except Wyoming. Coal industry employment has steadily declined from 18,165 in 1997 to 14,651 by December 1998. State figures from 1998 show that underground mines produced 126 million tons and strip mines produced 55 million tons. The state had 392 underground and 227 surface mines in 1998" (State regulators trying to gauge ruling's scope: State environmental officials surveying coal operations 1999). This number, while impressive, has drastically dropped from peak

employment numbers where once 125,000 to 145,000 miners were employed in the 1940 and 50s (Lipton 2002). While mining jobs have declined, the region's dependence on coal has not, and the coal industry provides a substantial amount of tax money to state budgets. In 1999, it was estimated that a ban on mountaintop removal mining would cost the state up to $100 million in tax revenue, 4% of the state's usual budget of $2.6 billion. By 2003 the total area affected by mountaintop removal mining was over 700,000 acres across four states (West Virginia, Kentucky, Virginia, and Tennessee) (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003). Counties in both West Virginia and Kentucky rate high on the list of counties with highest coal earnings (Figure 2.1), but the sheer reliance on coal is best illustrated by the ratio of coal earnings to total earnings for the county (Figure 2.2).

Mining as a whole has a long history that entwines with the identity of the region. While small farmers and frontiersmen were the prototypical early colonists of the region, it did not take long for people to discover the region's bounty of available resources. Early industries included timber and salt, but with the birth of the railroads, King Coal ascended his throne. The history of coal in Appalachia is the history of Appalachia as an internal colony, from which riches could be extracted. Control of the land was one of the first things that a new coal industry decided that it needed, and it embarked on a long process of primitive accumulation of real property that continues today. Along with that came political control, particularly over matters of land taxation, which in turn shape election patterns. The move from these early practices into today's mountaintop removal mining seems smooth and natural, but this vision hides the existence of political and economic power circulating around extractive industries.

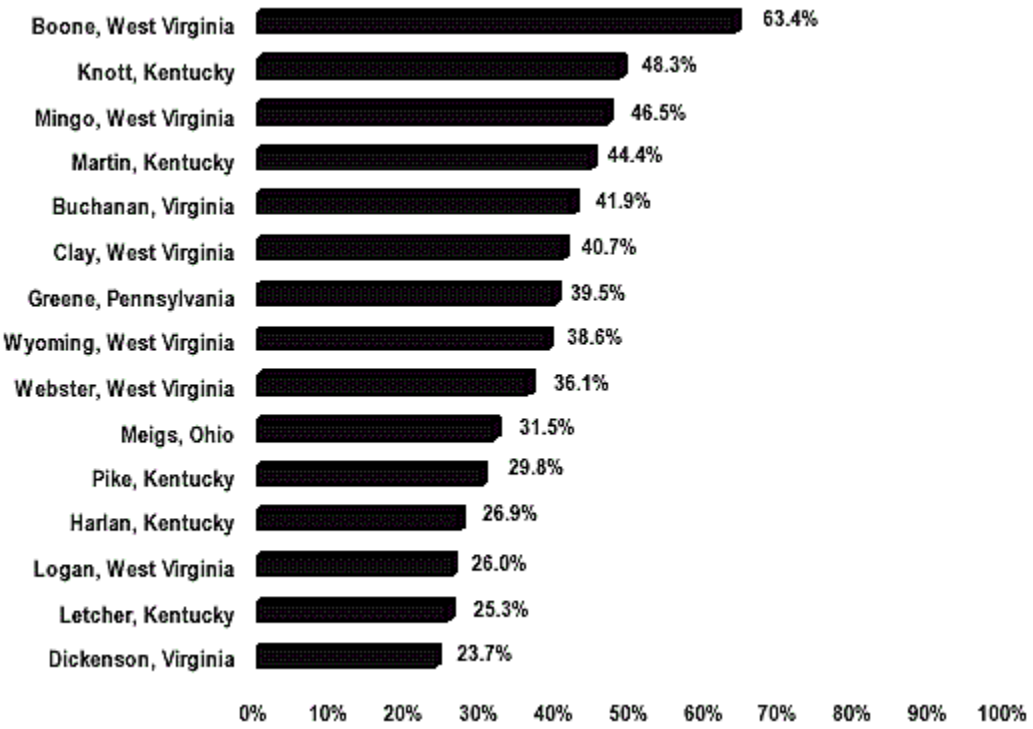

Figure 2.2: The fifteen Appalachian counties with the highest ration of coal mining earnings to total earnings, 1997
Source: (Thompson, Berger et al. 2001)

Mining shaped every aspect of life in the Appalachian coalfields. After being displaced from their own property, miners lived in company towns, shopped in company stores, and attended company churches. Increasingly, two classes emerged, those who owned property in land and those who did not. Eventually, property-ownership would become the ultimate goal of most Appalachians, as it signified independence and self-determination. As such, private property rights became revered – which provided the ideological foundations for the large property holdings of the coal industry. It also set the stage for the dispute over mountaintop removal mining, where both sides frame their arguments in terms of private property rights.

Physical geography of the hills and hollers

> The craggy hills, narrow hollows, streams and lush hardwood forests have long held people here hostage, body and soul. This is the only state that lies entirely in Appalachia, where building a few houses often means grading and leveling steep hillsides. But though we live in a place that requires fighting the landscape, West Virginians are by nature not a confrontational sort and are generally willing to turn the other cheek whenever possible. Lately that 'live and let live' philosophy has been put to the test.
> (Lipton 2002), *New York Times* Editorial by Michael Lipton, editor of *Graffiti*, a monthly news and arts publication in West Virginia

The Appalachian region was named for its mountains, which in turn may have been named for the Appalachee Tribe in northern Florida (ironically, not from the Appalachian Region) (Raitz and Ulack 1984). The mountain range runs roughly parallel to the east coast of North America from Newfoundland, Canada, in the north to Alabama in the south. However, most definitions of the region only include the central and southern parts of this mountain chain—from southern New York to northern Alabama (Raitz and Ulack 1984). The Appalachians are an old set of mountains, old even when the upheaval of the Appalachian Revolution thrust the mountains up from the sea 500 million years ago. The coal beds formed 300 to 250 million years ago when the area was covered by shallow seas and swamps, whose vegetative matter provided the material for coal (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003). After that, tectonic uplift created a mountain range similar to the Rockies, as well as producing the heat and pressure necessary to transform the carbon contained in buried vegetation into coal. However, those mountains gradually wore away. The ridges and valleys of today are a separate mountain system formed by erosion and shaped around the flow of water originally from ice age glacial melt and later from more localized flows (Green 1974).

The Appalachian coalfields straddle the ridge and valley system of low mountains and the Appalachian Plateau, carved to a similar appearance by streams. Most of the mountaintop removal mining occurs in the Appalachian Plateau areas (Figure 2.3). Here, there is little flat land, with most of the area taken up in slopes of varying steepness and in an alternating pattern of peaks and valleys. A river or stream sits in each valley, illustrating the history of erosion, which created the current landscape. The resulting system is one marked by steep slopes, narrow ridges, and river valleys clustered with human settlement (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003).

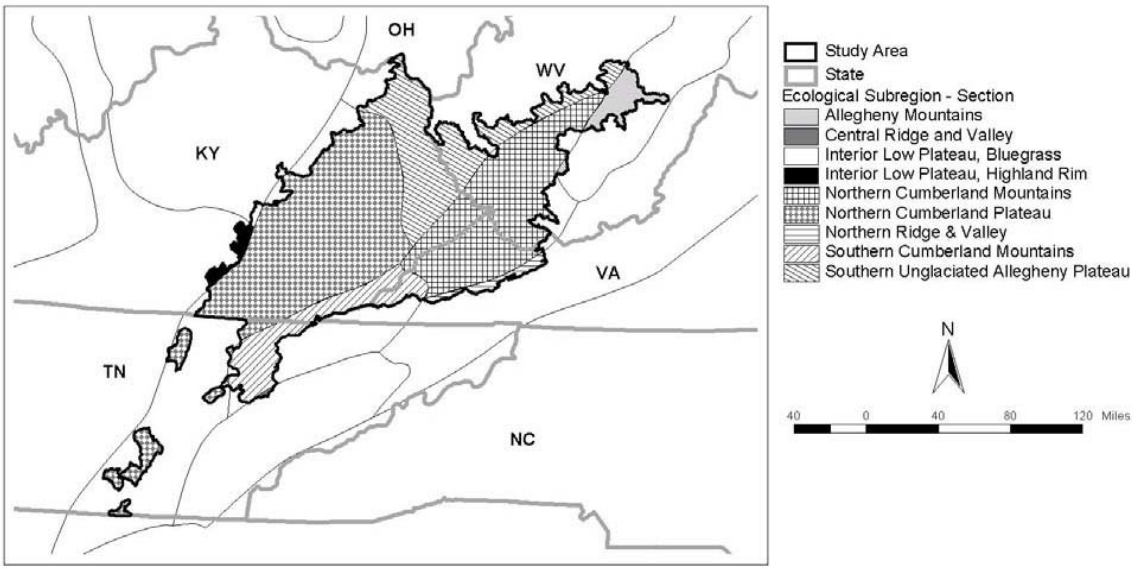

Figure 2.3: Ecological subregions in the study area
Source: (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003)

This geological history becomes important, because today mountaintop removal mining is linked to a process called valley fill, where waste is dumped in the nearby valleys. The region is rich in water resources, which created and dominate the system of valleys (Figure 2.4). Each of these valleys was formed by, and contains, moving water, and together these valleys form the headwaters for much of the eastern United States (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003). The mining process, in effect, is removing the headwaters altogether, with very uncertain results.

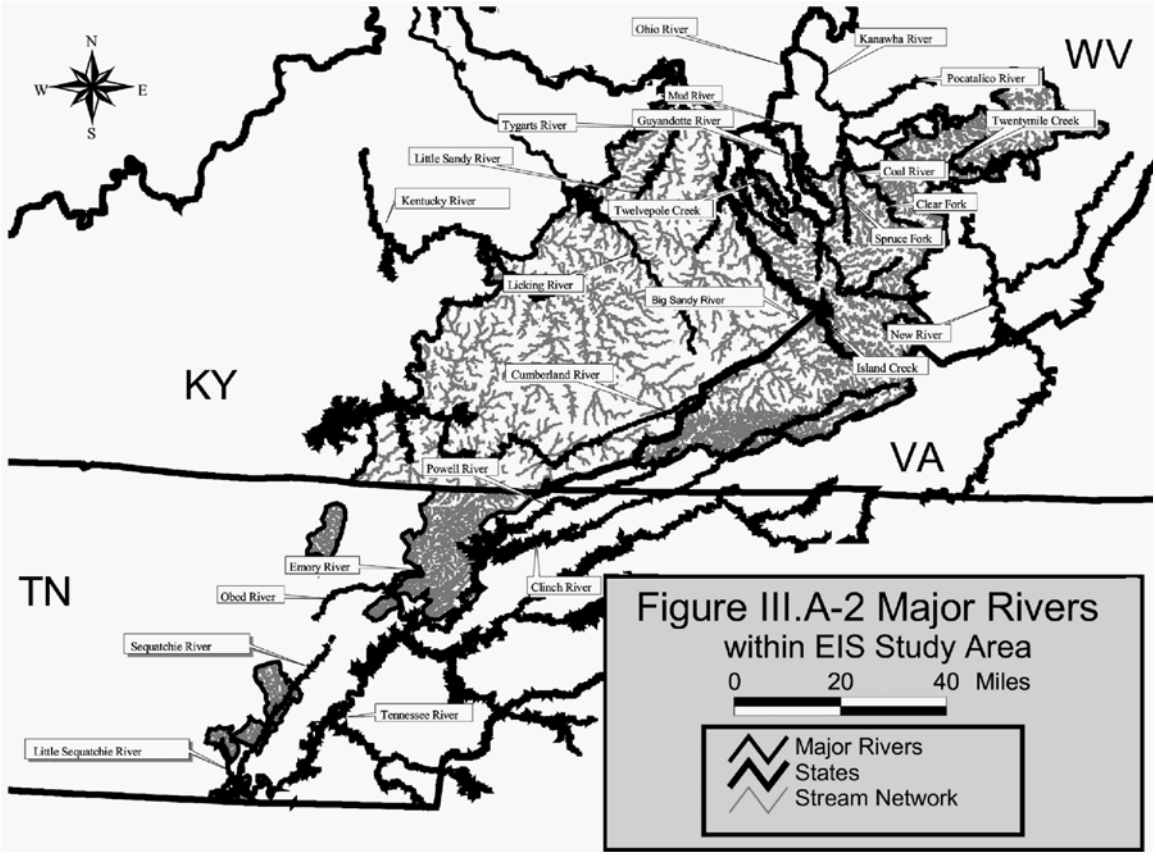

Figure 2.4: Major rivers in the study area
Source: (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003)

Much physical study of the region centers around these watersheds, which include streams, rivers, wetlands, and the groundwater recharge areas linked to these surface features. The higher elevations are marked by headwater streams, which feed both surface runoff and groundwater flow in the region. The upstream areas perform a vital function in creating the energy necessary for the downstream portions, both physiologically and through providing habitat for the smaller organisms that serve larger, downstream organisms as a food source (Vannote, Minshall et al. 1980). These functions can be seen in Figure 2.5. The area in which mountaintop removal mining occurs serves as the drainage basin for a set of rivers—the Pocatalico, Coal, New, Kanawha, Ohio, and Bluestone Rivers (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003). These rivers are fed by a variety of types of streams—some flow year round while others only flow seasonally or in times of great rainfall. These intermittent and ephemeral streams host similar amounts of and diversity of life forms as the perennial ones (Feminella 1996). During times of drought, many invertebrates burrow beneath the stream to wait out the dry period (Hynes 1970). In this manner, the headwaters of the watershed serve biological functions necessary to preserve the health of all downstream sections.

These river-edge areas serve as the transition between aquatic and terrestrial habitats, and are especially productive biologically, hosting both density and diversity of species (Warner 1979). These areas with their mass of plant growth provide a dense nutrient source, which is processed by a wide variety of invertebrates and then shipped downstream (U.S. Fish and Wildlife Service 2000). Streams like Hazy Creek, seen in

Figure 2.6) serve not only these biological functions, but have also created the flat lands of the valleys, where communities cluster.

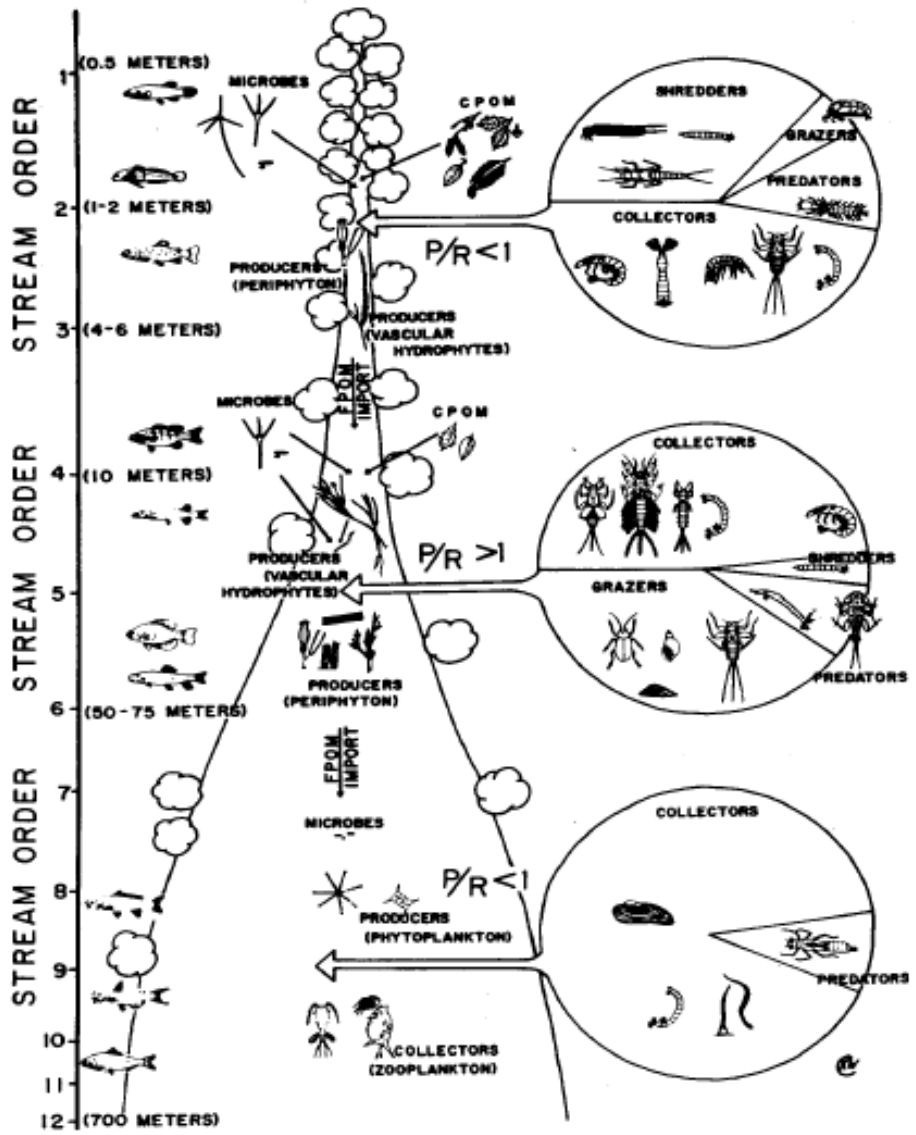

Figure 2.5: Diagrammatic representation of the river continuum shown as a single stream of increasing order
Source: (Vannote, Minshall et al. 1980)

Figure 2.6: Hazy Creek from the air
Source: (Hufford 1998)

The flora of the region is largely mixed mesophytic hardwood forest, dense, temperate woodland housing multiple stories of trees, shrubs, and ground-plants, which can be seen in Figure 2.7. The main species of this mixed hardwood forest include oaks, maples, yellow poplar, beech, white basswood, and others. Other layers in this forest ecosystem include a diverse number of under-story trees and shrubs along with wildflowers and ferns. This type of forest is noted for its great biodiversity—including flowers, birds, mammals, and amphibians (Hinkle, McComb, and Marcus 1993). This forest provides a home for a number of game animals as well as migratory songbirds (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003). The region is especially noted for housing the greatest diversity of salamanders in the United States (Petranka 1998).

Figure 2.7: Orie Loucks orienting Appalachia Forest Action Project volunteers to mixed mesophytic growth on the property of Joe Aliff, Rock Creek
Source: (Hufford 1994)

Most of this forest has been logged at least once since human settlement, so the hills are covered with second-growth trees, often in different mixes than the original composition (Lewis 1998). These new-growth areas are filled with small-diameter timber of varying quality and comprise the main land use in the region. The mountains are marked by a weak form of altitudinal zonation, with the tops of the tallest mountains containing alpine and boreal plants like those in Canada. High-elevation areas, such as Spruce Knob and Cranberry Glades, provide the only habitat for some of these species in the continental United States. Many of the species of this region are endemic, meaning they exist solely in small, localized areas (U.S.D.A. Forest Service 2006). As mountains

are leveled, this affects not only the watersheds, but these pockets of unusual flora. The Nature Conservancy noted the southern Appalachians for their rarity and rich diversity (Stein, Kutner, and Adams 2000).

The region is largely rural, and placed in non-farm usage, as the hilly landscape and soil characteristics make most agriculture difficult. The soils are dominantly Inceptisols, young soils with close resemblance to the parent bedrock and still in the process of formation, and Ultisols, highly weathered soils with low nutrient content. These soils are often very thin, with 0 to 3 inches of topsoil found 1.5 to 5 feet from the bedrock (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003). Most of these lands are used for coal and timber extraction or being held for future coal and timber extraction. Interestingly, in some cases, reclamation after mining can increase the productivity of the land by increasing the depth to which the sub-soils have been loosened (Ashby, Vogel et al. 1984).

Ecological Subregion	Geomorphology (Province)	Natural Vegetation (Forest Type)	Climate (Mean Annual)
Allegheny Mountains	Appalachian Plateaus	Northeastern Spruce-Fir Northern Hardwoods Mixed Mesophytic Oak-Hickory-Pine	Prec: 46-60" Temp: 39-54°F
Central Ridge and Valley	Ridge and Valley	Appalachian Oak	Prec: 36-55" Temp: 55-61 °F
Interior Low Plateau, Bluegrass	Interior Low Plateaus	Oak-Hickory	Prec: 44" Temp: 55 °F
Interior Low Plateau, Highland Rim	Interior Low Plateaus	Oak-Hickory	Prec: 44-54" Temp: 55-61 °F
Northern Cumberland Mountains	Appalachian Plateaus	Mixed Mesophytic Appalachian Oak Northern Hardwoods	Prec: 40-47" Temp: 45-50 °F
Northern Cumberland Plateau	Appalachian Plateaus	Mixed Mesophytic Appalachian Oak	Prec: 46" Temp: 55 °F
Northern Ridge and Valley	Ridge and Valley	Appalachian Oak Oak-Hickory-Pine Northern Hardwoods	Prec: 30-45" Temp: 39-57 °F
Southern Cumberland Mountains	Appalachian Plateaus	Appalachian Oak Mixed Mesophytic	Prec: 46" Temp: 55 °F
Southern Unglaciated Allegheny Plateau	Appalachian Plateaus	Mixed Mesophytic Appalachian Oak	Prec: 35-45" Temp: 52 °F

Source: U.S. Forest Service, USDA, 2002

Figure 2.8: Ecological subregion section characteristics
Source: (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003)

The climate is temperate, with warm, humid summers and moderately cold winters. The region receives 38 to 50 inches of rain each year, which falls throughout the calendar year and 2 to 6 inches of rain can be expected in any given month (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003). (See also Figure 2.8). This rainfall has enabled an ecosystem filled with diverse plant and animal life, even given the thin soils.

The rich amounts of vegetation in this landscape support a large number of animal, insect, and other species, including many which are listed as endangered or threatened through the Endangered Species Act. Endangered species likely to be affected adversely by mountaintop removal mining include a large number of fresh-water shellfish, some fish, and wildflowers, as well as the more glamorous flying squirrel and Indiana bat (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003). One interesting change forecast for the region is that it will lose many of its salamander species, but gain species of snakes as the habitat changes from forest to grasslands. Additionally, some features of the post-mined landscape provide unique habitat for threatened species. For example, rip-rap or rocks filling stream-beds create a perfect home for the Allegheny wood-rat (Wood and Edwards 2002).

The most thorough study of the environmental impacts of mining was performed as part of the "Programmatic Environmental Impact Statement for Mountaintop Mining" (PEIS) created by a group of federal agencies (US Army Corps of Engineers, US Environmental Protection Agency et al. 2003: ; U.S. Environmental Protection Agency, U.S. Army Corps of Engineers et al. 2005). The PEIS lists a number of irreversible and irretrievable commitments of resources, which include the coal itself, soil loss and erosion, decrease in air quality caused by increased dust and particulates, the loss of genetic diversity, the burial of streams with excess spoil and the loss of their associated biota, and terrestrial species and habitat loss. Changes to streams are especially wide-reaching and include changes in chemistry, water temperature, flow regime, geomorphological features downstream, and a highly increased potential for flooding. Each process triggers recognized feedbacks, such as the loss of forest cover will reduce

the region's capacity for carbon sequestration, needed to address global climate change. While mine-sites can be reforested, the preferred post-mining land use by state government bodies, reforestation requires a complete change in reclamation methodology. Especially difficult is ending the soil compaction necessary to stop erosion and create ground stability, and even with this method, many extant tree species cannot return to the mined lands (US Army Corps of Engineers, US Environmental Protection Agency et al. 2003).

The PEIS ceded the extremely long time scale that recovery will take, if recovery can happen at all. "With sufficient time, although it may take hundreds of years, natural processes for mine soil improvement and succession can overcome conditions limiting reforestation, and the resource loss is not irreversible. Conversely, intensively managed reclaimed mine sites may never regain trees due to long-term use as industrial, residential, agricultural, or other non-forest uses" (US Army Corps of Engineers, US Environmental Protection Agency et al. 2003: IV.A-4).

However, the PEIS process was an unusual one in that it did not fully research the impacts of mountaintop removal mining in general, but rather considered the impacts of having differing regulatory bodies oversee the process, as it focused on the process of issuing a nation-wide permit for all surface mining. While the PEIS discusses many options for successful mitigation of many of these environmental impacts, the document admits "past efforts at compensatory mitigation have not achieved a condition of no-net loss of stream area or functions" along with other past failures of the regulatory regime in achieving reclamation (US Army Corps of Engineers, US Environmental Protection Agency et al. 2003: III.D-17).

Additionally, the PEIS found a number of cultural and economic impacts of landscape loss in the region. Many local communities will be displaced entirely, as the land they sit on is needed for mining. The impacts of mining will exacerbate the population loss that the region has already experienced. Traditional harvesting of landscape resources (including game, fruits, fish, spring greens, summer berries, fall nuts, and roots such as ginseng) is one source of income and cultural heritage that will be lost in mined sites. Wild ginseng, for example, is capable of earning $500 per pound when dried (Hufford 1997). Mountaintop removal mining ends forestry in places where it occurs, where forestry is the major economic alternative to mining in the region. Several historic sites will be removed, including several that contain remnants of the Native American tribes that once controlled the region, as well as more contemporary sites such as Blair Mountain, the site of the biggest battle of the Mine Wars of 1920-21, along with former mining towns, coke furnaces, and relics of the region's industrial heritage. Figure 2.9 illustrates the expansion of the mine toward the community of Blair, WV. Communities, such as Blair, will also lose the visual resources, the views and their histories that many residents cherish, and these same vistas bring in tourists, which have become a growing part of the region's economy. (Meanwhile the PEIS notes that mountaintop removal may well boost opportunities for vehicular recreation in the region.) Residents in areas where coal mining is happening face a number of direct consequences, which include damage to wells and structures, reduced water quality, increased risk of flooding, and the impacts of blasting with noise, dust, and fumes (US Army Corps of Engineers, US Environmental Protection Agency et al. 2003).

Figure 2.9: Aerial view of mountaintop removal near Blair
Source: (Eiler 1998)

Culture, ethnicity, and mining

> "No Coal, No Jobs, No Future."
> Sign held by coalminers Roger Nickels, Jay Orndorff, and Bill Seese, protesting in favor of mountaintop removal mining outside the federal courthouse in Charleston, West Virginia (Ramsey 1999).

Mining trends are embedded in the local context, the culture, history, and geography of Appalachia. To understand the context-specific nature of environmental conflict and change, this study places its roots in the discipline of Appalachian Studies, which flourished as a discipline in the 1970s and early 1980s. During that period, many scholars have found that treating Appalachia as an internal colony developed for research extraction to be fruitful (Schwaner and Keil 2003). The Appalachian landscape is one that has been used and re-used, through successive extractions of timber, coal, and other natural resources. This rural industrial history has shaped what the region is today (Eller

1982). The region's history has been dominated by the dual forces of industry (Williams 1976) and absentee landownership controlling resources (Rasmussen 1994). The field of Appalachian studies also contains strong linkages to the post-colonialist movement with its emphases on domination and power (Banks, Billings, and Tice 1993). The owners of the coal, long external to the region, asserted their choices as to land use. Local assertions of right to the land and landscape must be able to counter these strong assertions of industry.

Within the larger physiographic region of the Appalachian Mountains, a smaller, socio-cultural region was defined in the nineteenth century, as the place of the "mountain whites" (who were never all white by any means). Writers looking for an exotic location in which to set their adventures flocked to the region; "a strange land with peculiar people" (Shapiro 1978). All of the various accounts included the extreme poverty of the area. This was the region of the Hatfields and McCoys and other similar poor, uncouth, and simple people, who could not force themselves to fit the prevailing cultural mores of America. Scots-Irish comprise the dominant ethnic group in the area. They were the largest portion of early arrivals, and from that established many of the cultural and social patterns in the area. Germans, English, Welsh, and others of north-western European lineage formed most of the remainder of early settlers.

There was always a smattering of other ethnicities in the region, including African-Americans. However, it was not until the growth of coal mining, that the region ethnically diversified. Early coal mining required large numbers of workers. The first work force composed of Appalachians, an increasing number of whom had been displaced from their farms, and made to turn to wage labor. However, their numbers in a

sparsely populated landscape soon proved inadequate, and coal operators moved to recruiting immigrants from the eastern seaboard. New ethnic groups arrived in Appalachia, most frequently from southern and eastern Europe. Additionally, freed African-American slaves arrived from the South in the first wave of the Great Migration, as coal mining wages were not high, but compared to the meager life of a share-cropper, they provided a great opportunity. Strong African-American mining communities thrived. Communities such as the "Free State of McDowell" grew and thrived, offering home and good mining jobs to former slaves, until economic pressures moved the African Diaspora further north to work in World War II manufacturing jobs in northern cities (Williams 1974).

These new immigrants served as an additional tool for the coal operators. Their arrivals happened at around the same time as the first drives to unionize the coalfields. Initially, coal operators used immigrant language barriers and racism against African-American miners to divide groups of miners into competing interests. Often, these interests were overcome through union outreach and the fact that "inside the mines, everyone is black." Later, as unionization strikes swept through the region, more waves of immigrants were shipped in as strike-breakers. Again, the plan was that differences between the groups would keep them from feeling sympathy with and siding with those "on the other side."

Appalachian mountain identity

> Appalachian coalfield residents have a unique social and cultural connection to the natural environment. For coalfield residents, the quality of the natural environment is important both as a source of income and an integral element of Appalachian culture (US Army Corps of Engineers, US Environmental Protection Agency et al. 2003).

One problem of cultural identity is that the Appalachian area has been split among several states. West Virginia is the only state that lies fully within most definitions of the Appalachian region. Kentucky, Tennessee, Virginia, Ohio, Pennsylvania, North Carolina, South Carolina, Georgia, and Alabama[3] all have parts included in various definitions of Appalachia. This division has allowed Appalachia to be marginalized even within the smaller-scale state governments that are supposed to represent it (Campbell 1921). Appalachia was officially defined by the U.S. government in 1965, with the legislation establishing the Appalachian Regional Commission. This region covers 200,000 square miles along the spine of the Appalachian Mountains from southern New York to Northern Mississippi, including all of West Virginia and parts of 12 other states: Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia (*Appalachian Regional Development Act of 1965*, 1965).

Appalachian cultural identity is tied to the land, and environment is traditionally a part of the culture, although it is often not recognized as such (Howell 2002). "Carlos Gore, one of the Logan residents, said he was no environmentalist. He just didn't understand why he had to sacrifice his home and way of life to benefit the coal industry" (Radamacher 2000). Environmentalist is a term reserved for people who live out of state, and describes people who come to Appalachia to either engage in nature-based tourism or

[3] More contentiously, parts of New York and Mississippi are also included in some Appalachias.

to stir up trouble. Outsiders are always viewed with suspicion, as one letter to the editor illustrates, “I personally believe that it is none of their business, and they should look around the states they live in and criticize a few things going on where they live” (Rowley 2000). For the Appalachian, natural resources are a source of social reproduction and cultural survival (Nesbitt and Weiner 2001: ; Beaver 1986). The environmental movement often receives blame for actions that strip local people of their control over place and property, such as the creation of parks that remove local people from the land (Williams 2002). Meanwhile, the environment serves as a commons that allows for shared economic use through activities such as harvesting ginseng (Hufford 2002).

While not identifying as environmentalists, the Appalachian people have frequently engaged in conflicts in which others would term their role “environmentalist.” Changes in land use that are deemed as detrimental to both landscape and society are strongly opposed. With groups fighting high-voltage power-line placement (Wagner 2002), hydro-electric dams (Foster 1988), and strip mining (Bingman 1993), the language is different from that used by traditional environmentalists, but the actions and goals are quite similar. In many ways, these ideas fit the cultural stereotypes of people whom time has passed by. American environmental values changed during the twentieth century, moving from Theodore Roosevelt-style conservation of resources into modern preservationist and social values paradigms following WWII (Hays 1997). If he were to return to earth and visit Appalachia, Roosevelt would feel quite at home with the environmental claims and values projected by the Appalachian people. These internally held beliefs often conflict with those from the outside, partially because they are different

and partially because through the construction of the "Appalachian other" the Appalachian people see their values and views as being degraded and discounted by outside people (Foster 1988).

Within West Virginia, the mountains are adopted as part of the official state identification. The state's nickname is the Mountain State, directly identifying with topography. The motto, *Montani Semper Liberi*, is alternately translated as "mountaineers are always free" or "the mountains will always be free." West Virginia University's sports teams are the Mountaineers, represented by a buckskin-clad man (or woman) who inspires the fans by firing a rifle. The state's two official songs both refer to the topography, "West Virginia Hills" and "My Home among the Hills." (Perhaps better known is the unofficial song, "Country Roads" that does refer to mountainous landscape, but names physical features of neighboring Virginia – one reason why it has never been officially adopted). Meanwhile, Kentucky's state symbology reflects the ties of its government to the western flatland part of the state. The nickname, the Bluegrass State, refers to the landscape in the western half. The song, "My Old Kentucky Home"; motto, "United we stand, divided we fall"; and college sports team, Wildcats, all are landscape neutral. Both states nod to mountain people on their state flags. The West Virginia flag features a miner and a farmer. The Kentucky flag shows a pioneer and a statesman shaking hands – uniting the eastern and western populations in a way that seldom happens in real politics.

Economic history

> If you're born in Kentucky you've got three choices; coalmine, moonshine or move it on down the line.
> – Lee Dollarhide to Doolittle Lynn in *Coal Miner's Daughter* (1980)

Three major economic forces operate in the Appalachian coalfields, and they can be represented by the quote "coalmine, moonshine, or move it on down the line" from the movie *Coal Miner's Daughter* (Apted 1980). Coalmine represents heavy reliance on extractive industries. Certainly the coal industry is the dominant one of these, but not the only one. Other major extractive industries in the area through history include logging and salt mining, along with other activities. What all of these have in common is that they rely on removing things from the earth to produce commodities. They are also united in being largely owned and controlled by often absentee forces outside the region. Wealth moves out and does not return.

Still, men line up for the few mining jobs that are available. Training sessions for surface mining apprenticeships fill as quickly as they open, even with many union miners laid-off for years and waiting on the recall list. Glen Whittington, a cab driver from Fayette County, participated in one of these trainings, looking for "a better job. A much better job," he said. "That's all you've got in West Virginia is mines" (McElhinny 2000). Today's entry level mining jobs pay from $12 to $20 per hour (McElhinny 2000).

Moonshine represents reliance on informal economic structures. In early times and during Prohibition, illegal moonshine stills were a major contributor to the economy. The modern equivalent is the crystal methamphetamine lab, many of which are built in the remote rural areas that abound in the region. Other informal economic activities are far less sinister, including ginseng and goldenseal harvesting, small-scale timbering, and handicrafts. Many small farms, past and present, cannot be completely self-sustainable,

so often an informal economic activity is added to provide cash flow. Also, as people move to town, low-paying jobs or government benefits create the necessity to bring in some additional (non-taxed) income.

Move it on down the line refers to the massive out-migration that the region has seen since the decline of employment in the mines. The lack of other employment opportunities have pushed large numbers of young, skilled, and educated people out of the region to find work. “Like thousands of other miners, you'll have to leave this state because there's nothing here”, said Roger Nickels, vice president of United Mine Workers Local 750, which represents miners at West Virginia-Indiana Coal Holding Company's Princess Beverly stripmine in Cabin Creek (Ramsey 1999). Various stretches of road have been renamed the “Hillbilly Highway” because of the numbers of Appalachians who went to places such as Akron, Cincinnati, and Detroit to find work. Today, the migration often takes a more southerly route, with residents taking jobs in Raleigh-Durham or Atlanta. Still, it has been said that the greatest export of Appalachia is its people. Most of these migrants have taken on a boomerang migration pattern, returning home for weekends, holidays, or at least to be buried.

Of these three, I have chosen to focus on the extractive economic base of the region, the coalmine in particular, which not only arouses deep passion in the people of Appalachia, but also has the most concrete legacy on the landscape. America has an almost endless appetite for energy, and much of that energy has always been provided by coal. Early coal was used to power engines for railroads, fuel home furnaces, and provide coke for steel-making. When electricity entered national use, coal soon became (and remains today) the dominant fuel for electricity generation. The two world wars

called for increasing amounts of coal to fuel war-time production, although each was followed by a crash in the demand for coal. Overall, a rising demand continued until the Clean Air Act of 1970, which called for lowering sulfur in emissions and the drop in natural gas prices of the 1980s and 90s. The United States briefly considered transitioning off coal, until oil prices began rising in the late 1990s, which, along with Clean Air regulatory loopholes for old coal-fired power plants, again spurred demand for coal and jump-started a flagging industry.

Figure 2.10: Australian Filmmaker interviewing miners from the Princess Beverly Mine (a union mine)
Source: (Hufford 1998)

These regulatory changes along with technological innovations led to an enormous growth in the size of the mines themselves, but a shrinking number of people employed by the mines. Today, mountaintop removal mining extracts the majority of the coal exported by West Virginia, but accounts for only 16 percent of mining jobs in the state. Today, there are approximately 18,000 working miners in West Virginia, supplemented by 30,000 contract employees with skills in the construction and heavy equipment trades (Slavin 1999). These few jobs are good jobs, which pay above the average for the region, although there can be quite a difference in compensation package, particularly between union and non-union mines. "Coal mining earnings within West Virginia are 5 percent of total state income (3 percent of employment); just over 1 percent of total earnings and employment in Kentucky, and less than 1 percent of employment and income in Virginia and Tennessee" (US Army Corps of Engineers, US Environmental Protection Agency et al. 2003). The effects of mining in the region vary greatly from county to county, with the greatest effects on Boone County, West Virginia where coal-related earnings comprise 60 percent of county earnings, and Knott County, Kentucky at 42 percent. Coal mining creates a significant amount of tax income for that states that host it, with 34 percent of West Virginia's property taxes coming from coal (US Army Corps of Engineers, US Environmental Protection Agency et al. 2003).

However, it is the mining jobs that undergird social and cultural history and inspire passion in the residents of the region. "Our West Virginia heritage," according to a *Charleston Gazette* editorial, "is deeply rooted in fighting for what we know is right and this issue affects us all. Our entire state's economic survival hinges on the successful support of the mining industry. We are proud to serve the coal industry and look forward

to working hard to combat the forces at work to see its demise" (Gillian, Yon, and Vass 2000).

Post-colonialism and extraction

> One time away back years ago there was a boy named Jack. He and his folks lived off in the mountains somewhere, and they were awful poor, just didn't have a thing.
> (Chase 1971) from *The Jack Tales*

Appalachia has long been studied as an internal colony, in which control over environmental resources has translated to control over the people (Eller 1987: ; Walls 1977). The first patterns of land ownership in the area tied to the uneven distribution of federal land grants, following the American revolution (West 1970). Coal, along with the social structures its extraction created, worked to reinforce these colonial-style structures (Batteau 1979-80). The move from subsistence farming to extraction, occurring largely in the late nineteenth and early twentieth centuries created the system of Appalachian poverty we see today (Precourt 1983). Meanwhile, an energy elite emerged, who gained control over both the mountain lands and the mountain people (Walls 1977). Federal law worked to support this owning class and helped create the social formations of the area (Salstrom 1989).

Many scholars have found that treating Appalachia as an internal colony developed for research extraction to be fruitful (Schwaner and Keil 2003). The Appalachian landscape is one that has been used and re-used, through successive extractions of timber, coal, and other natural resources. This rural industrial history has shaped what the region is today (Eller 1982). The region's history has been dominated by the dual forces of industry (Williams 1976) and absentee landownership controlling resources (Rasmussen 1994). The field of Appalachian Studies also contains strong

linkages with the postcolonialist movement with its emphases on domination and power (Banks, Billings, and Tice 1993), which enables the owners of the coal, long external to the region, to assert their choices as to land use.

Into this system, the federal government has intervened many times to raise the standards of living for the people through New Deal programs, the War on Poverty, and today's environmental protection regulations. One governmental solution suggested by President Franklin Roosevelt's Country Life Commission, that fortunately never happened, would have enacted the forced removal of mountain people from their land (Shapiro 1977). Several detailed studies have examined many of the political and economic factors that led to the current situation of poverty, external control, and environmental degradation. One interesting work traces Appalachian problems to a nineteenth century national cash shortage that led to payment of miners in scrip, thus creating dependency (Salstrom 1989). In more recent days, a large number of people have become dependent on federal aid payments for their livelihood (Ford 1967). This historical and environmental pattern, of industry and government working together, has led to the same result that the political ecology conservation and control thesis has suggested in locations from the developing world—a disenfranchisement of local people from the land they inhabit (Robbins 2004).

These patterns have created a landscape where unprecedented control has been ceded to industry. Many visitors to the region do not even recognize it as America. "It's like we're a Third-World country out here," said Joe Lovett, a West Virginia environmentalist and lawyer. "If this was the Rocky Mountains, this wouldn't be happening. When we take people to see it, some of them just start crying" (Act now to

enforce ban on dumping mining waste 2002)[4]. Our conception of nature changes when viewed in relation to extractive industries. Extraction, such as mining, actively changes the surface of the earth and the way nature itself operates (Boyd, Prudham, and Schurman 2001). Mining has many external effects – from local economics to environmental run-offs. Thus, the value and shape of the land is not limited merely to the parcel mined, but rather affects much of the other land in the surrounding community. From an internal view, the system is rife with corruption and a ceding of governmental control of the environment and the economy to the coal companies. "Coal operators have victimized Southern West Virginia and its people for decades. The state environmental agencies are supposed to protect the people and their homelands. But too many of our elected politicians who run the agencies have permitted these out-of-state companies to operate with so little permitting and almost no regulation" (Young 2000). Meanwhile, this lack of governmental supervision has created an environment where some irresponsible companies know they can circumvent the law, and only give minimal efforts at compliance. "Now the companies no longer even try to write good permit applications. They know the agencies will go along with almost anything" (Young 2000).

Many scholars within the field of Appalachian studies trace development of Appalachia along the colonial model of development. According to this model, a shift happened at the beginning of the twentieth century, where speculators aided by local elites forced indigenous[5] people off their land, forcing them into the towns to work for the industry that displaced them. This primitive accumulation happened by the dual

[4] This type of mining-related destruction does also happen in the West, including notable incidents like the toxic Berkeley Pit in Butte, Montana which closed and began to fill with toxic water in 1982 and the cyanide spills between 1984 and 1992 at the Summitville Mine in Colorado.
[5] Within this literature, the descendents of the early settlers are treated as a secondary indigenous people.

forces of alienation of labor from the land and commodification of natural resources, as part of a “rapid and wrenching” change. However, this model ignores the long history of external ownership and speculation that existed since the 1700s (Lewis 1998). Another set of theories sees the persistent poverty in the region as the result of capitalist modern development based on an extractive economy (Haynes 1997). This view differs from the post-colonial and modernization approaches by placing central importance on the character of extraction, with its flows of both goods and value out of the region.

The ideas about nature held by the key players label some places as appropriate for production, creating distinctions that gain materiality (Mansfield 2003). In the Appalachian case, industry and government have together created a definition of the place as appropriate for coal extraction – and not much more. Extraction in America involved agreements between industry, government, and rural communities, but the stability promised to the communities never appeared and the increasingly global scale of extraction operations left the communities that host them further behind (Prudham 1998). Meanwhile, the existing power structures asserted their hegemony in ways that had material effects on the landscape (Harner 2001), removing mountains, burying streams, and drastically changing ecosystems. These structures have also shaped the social landscape, creating pockets of poverty and dependence where extractive industries operate. “Logan County, where the Dal-Tex operation is situated, already ranks near the bottom of West Virginia's 55 counties in wealth despite collecting $1.8 million annually in coal severance taxes” (Lambrecht 1999).

In order to gain the necessary control over the landscape and extract its wealth, industry needed to remove the land from the hands of the people living there, and gain

ownership. In Appalachia, this process happened in ongoing waves occurring from the Colonial Era through today. At times this accumulation of land takes on the characteristics of primitive accumulation, dispossessing owners from some or all of their property interests in the land. At times this accumulation has a modern capitalist form, operating through commodification of land and its sales on the markets[6].

Contemporary environmental conflict

> All of us come from coal mining families, My father was a coal miner. But we're worried about our quality of life and our future.
> - Retired science teacher Moss Burgess, Wilkinson, West Virginia (Ward 2001)

Environmental conflict and change is a worldwide phenomenon, but each incidence is rooted in a complex local context. Views of the environment and causes of conflict emerge from specific local conditions. Mining has many external effects, from local economics to environmental externalities, thus, the value and shape of land is not simply inscribed on the parcel mined, but entwines with land in the surrounding community. While often, although not always, turning away from the term environmentalist; the Appalachian ties nature and environmental values heavily to ideas of place, property, and mountains. Through different discursive terms, environmental conflict emerges, particularly over mining and its physical expansion.

Rural and urban people hold different attitudes and perceptions of the ideas of nature and wilderness (Lutz, Simpson-Housley, and De Man 1999). The rural landscape illustrates a history of human intervention (Gottfried 1997). Local Appalachian conceptualizations of the environment differ from those of people from outside Appalachia. A majority of Appalachians see the environment in which they live as a

[6] See Chapter 3 for discussion of this issue.

means of social reproduction and cultural survival, as opposed to outsiders who see it either as a recreational resource to be consumed (Nesbitt and Weiner 2001) or as a source for the production of coal. Studies have shown that Appalachians have a unique self-identity that is heavily influenced by the rural cultural context (Wilson, Henry, and Peterson 1997). Landscape ties heavily into both place-identity and community-identity (Harner 2001).

Local views of nature are an essential part of the environmental conflict over mountaintop removal mining. One major factor that comes into play is the way that the landscape becomes part of the identity of local residents. West Virginians have long embraced or disputed (frequently in the same sentences) the terms “hillbillies” and “mountaineers” to describe themselves. These word choices illustrate the way that the local definition of self ties into the existence of the mountains. Mountain people shape their identity through a variety of forces. Some of the strongest include: kinship, politics, religion, and a tie to the land and its history (Foster 1988: ; Maurer 1974). With the mountains removed, the state of the land can have strong implications on self-determination of local people and their cultural identity. Landscape often becomes part of cultural identity through structures of power relations (Harner 2001). Changes to this landscape affect more than the economy and the environment, but also the local identity of the people living there.

One key to this work is determining what role if any local people and institutions play in defining environmental expectations. Local legal mechanisms do represent the voice of the local people, but many have lost faith in these institutions after a history of industry dominance of local government (Rasmussen 1994: ; Cable 1993). Individuals

have developed alternative forms of local resistance, called “fussin’” in Appalachia, when they do not feel the government represents their interests (Cable 1993). Local community organizing often takes place in locations such as local festivals (Foster 1993). Folk music serves as another outlet for local expression. Folklorists such as Guy and Candie Carawan with the Highlander Center in Tennessee have collected folk music as a record of political resistance (1993). Even ghost stories are tied to periods of political and environmental turmoil, reflecting common fears in a changing world. The region saw a flourishing of ghost stories during these times: settlement, the Civil War, and industrialization (Musick 1965). Looking at the legal system at the local scale requires a very broad definition of the legal, drawn from both national and local understandings.

Because of these trends in environmental values, Appalachia has a long history of resistance to surface mining (Fisher 1993). Traditional conservation groups want mining stopped, or, failing that, they believe reclamation should turn land into uninhabited wilderness for consumption. Local groups are mixed in their beliefs over whether mountaintop mining should be done, but they say that if mining is done, it should be done carefully so as not to harm surrounding communities. To many Appalachians, protecting the environment is a matter of stewardship of a productive set of resources for current and future use (Ward 1998). This productive idea of nature frames around local economic and social as well as environmental beliefs, while many Appalachians view consumptive use as protecting environmental value for outsiders. Thus, ideas on many scales, from local to national, enter the perceptions of what nature should be and shape land use and the conflicts that surround it.

Figure 2.11: Aerial view of reclaimed mountaintop removal site near Logan
Source: (Eiler 1998)

Conclusions

> They who seek a reason for everything subvert reason.
> Legal Maxim, *Broom's Legal Maxims*

The Appalachian coalfields shape and have been shaped by a complex web of socio-environmental processes. These processes emerge in the identity of the people, but this identity cannot be narrowly conflated with either the landscape or the mining industry. Rather it is shaped by both and, in turn, shapes both through complex flows across time and space. It is against this background, but also entwined with this background, that the political economies and ecologies of the region operate.

Formation, settlement, and industrialization in Appalachia tie to land and landscape, as do the contemporary growth of mountaintop removal mining and the many

conflicts tied to that change. After all, this is a story of land-use and land-cover change, but this environmental story is also a social one. The environment and society are interrelated in multiple and complex ways (Awanyo 2001). Some of this complexity is inherent in ideas of Appalachia as a region, which today is synonymous with coal, poverty, and scenic beauty. The region has long had a reputation of being a place where violence teems just below the surface. This is the land of the Hatfields and McCoys, where the Civil War turned brother upon brother, and where the Mine Wars of the 1920s saw federal troops deployed against unionizing mineworkers. Tension is again boiling through the hills and valleys as neighbors fight over core values of landscape, identity, livelihood, and property in the land itself. Understanding these patterns and perceptions are necessary to create the social context in which environmental change must be conceptualized (Warren, Batterbury, and Osbahr 2000). An incorporation of culture into the political economic discourse is necessary, because this type of social construction illuminates the building blocks of societal understandings of both natural and societal values and the conflicts that create them (Hajer and Fischer 1999). Political ecology provides a key method in uncovering and understanding this complexity and complex socio-environmental systems (Taylor 1999).

CHAPTER 3

"TRYING TO RIDE A DEAD HORSE": ACCUMULATION OVER THE SHORT HISTORY OF MOUNTAINTOP REMOVAL MINING AND THE LONG HISTORY OF MINING

> "I thought, dear Lord, I'm on this mountain trying to ride a dead horse" (McKinney 1999) letter to the editor of the *Charleston Gazette*.

Often, primitive accumulation, or accumulation by dispossession, is relegated to the mythical past, events that formed the necessary preconditions for capitalist development but are not part of the capitalist system. Instead, it is an ongoing process, that appears in different times and different forms (Perelman 2000). Study of extractive property in Appalachia highlights the ongoing nature of primitive accumulation. Rather than a single, massive instance of primitive accumulation, the forces of capital operated in the Appalachian coalfields in a much more long-term and complex manner, starting with colonization and continuing today. This study will show that primitive and capitalist accumulation can work together in different ways. They can happen in consecutive waves or in periods of blended primitive and capitalist character. This accumulation incorporates phases and characteristics of both primitive and capitalist accumulation models, and centers around the controlling notion of private property along with the legal, economic, and biophysical systems that define its characteristics. Additionally,

primitive accumulation is quite flexible and takes on different characteristics as the situation around it changes, in dealing with complexity and change.

When applied to land, accumulation exhibits greater patterns of complexity and messiness, pulling further away from a clear adaption of Marx's words. To Marx, capitalism, with its needs for accumulation and growth, is the driving force behind extraction (Walker 2001: ; Marx 1976 [1867]). It is easy to see within the capitalist system how poor resource regions fail to develop through the trends of imbalanced trade, profit leakage, and the failure to diversify (Bunker 1985), but this does not explain the diversity of changes happening to different resource areas (Walker 2001). Contemporary Marxian theorists treat capitalism as a dynamic system, examining how its constant movements have wide-ranging and complex effects (Brenner 1998). These effects are not limited to the political and economic spheres, but also emerge in material form upon the landscape and into environmental systems.

Accumulation of nature is necessary, because capitalist society is based on the scientific control of nature, and this accumulation is one means of asserting that control (Marx 1973 [1857]). However, nature is a complex system of its own, and its interaction with the complexities of capitalism and capitalist production can create disorderly effects. The patterns of accumulation of land in Appalachia illustrate the rapidity and consistency of change that counteracts the stability that capitalism needs in order for capital to be able to plan for future growth. In turn, through the mechanisms of accumulation, capital's institutions create semi-stable structures in this unstable system in order to avoid crisis.

This chapter begins with an exploration of primitive and capitalist accumulations, with a focus on the disorderly flux that exists within and between the processes. It then

traces the particular patterns of the waves of accumulation as they move through the Appalachian coalfields. Finally, it turns to the current wave of accumulation – mountaintop removal mining – to illustrate the new and complexly spatial forms that blended primitive and capital accumulation has taken on today. Primitive accumulation is fluid and changing. It takes on disorderly properties in response to the disorderly conditions that confront it, and, through this, is shaped into a variety of forms and patterns in its ongoing operation.

Primitive and capitalist accumulations

Primitive accumulation is a method by which a small number of people gain control of the means of production that were previously vested with a larger number of people: at its core primitive accumulation is a transfer of property rights (Harvey 2003). This process happens in two stages: first, a dispossession in which the original holders are separated from the resource that they once controlled, and second, an accumulation through transfer in which the capitalist gains control of the resource. In many places, the first means of production to fall under control of the owning class was land; in Appalachia, the resource lands hold coal reserves, which constitute the major regional means of production. While these events often do occur in stages, they often occur simultaneously as well. Primitive accumulation serves multiple functions, and in addition to solidifying control over the resource, the process serves to create a workforce through their separation from the resource. As the people who formerly made their livings from the land no longer have access to and control over the land, they are forced into the patterns of wage labor – working for those who now control the coal lands, the means of production (Marx 1976 [1867]).

Capitalist accumulation frequently is treated as a second stage, occurring once the means of production have transferred to the control of the owning class through incidents of primitive accumulation. Capitalist accumulation happens as the work process starts and the value produced is split between the workers and the owners. In capitalist accumulation, the wages paid to the workers are less than the value that they produce. This difference is transferred to the owners of the means of production, skimming value off the top to enable the accumulation of capital. Gradually, this transfer creates conditions of dependence where the workers must continue wage labor in order to purchase the necessities for continued existence (Marx 1976 [1867]). The results of these processes are seen clearly in the sheer dependence of the Appalachian region on the single commodity of coal. Accumulation, both primitive and capitalist, fueled this dependency and, in turn, the dependency created opportunities for more waves of primitive and capitalist accumulation.

In reality, waves of accumulation, over a long time, worked to form the property regimes that exist today. Some of the accumulation was primitive in character, some was capitalist, and still other waves exhibited characteristics of both forms. This pattern fits David Harvey's (2003) description of accumulation by dispossession as encompassing a number of processes, including commodification and privatization, dispossession of peasants, privatization of property rights, commodification of labor, colonial processes of resource appropriation, monetization, and the credit system and finance capital. While Marx saw primitive accumulation as a historical process, locked into a particular time and place, recent studies have shown it to be more constant and ongoing (Glassman 2006). Harvey explained how primitive accumulation is not locked into one period of time, but

is rather a set of processes that continue appearing in different forms at different times. While certain events can be examined as examples of the types of accumulation that were happening in a time and place, these events do not exist separately and rather continue to operate, shaping and forming each other as part of an ongoing process, an evolving version of private property that creates a dominant human relationship to the land. The character of this accumulation is tied to the constantly changing character of the structure and logic of capitalism and exists in a fluid relationship with capitalist accumulation (Harvey 2003). Harvey's ideas can be extended by showing the fluidity of the movement between forms of accumulation, and how this movement is entwined with the inherent disorder of the institutions of property.

This fluid movement between types of accumulation, in turn, made the region ripe as a receptacle for Harvey's "spatial fix." Capital is in constant movement to counteract the potential of crisis tied to the necessary fixity of the assets that are being accumulated (Harvey 1985). This movement touches down at various places on earth and this contact is mediated through the institutions of property that form the rules governing the concrete and particular character of land, capital's host. In turn, this pattern of movement and landing creates a constant state of instability, as "capitalism perpetually strives, therefore, to create a social and physical landscape in its own image" (Harvey 1985: 150). These processes are spatial and continuous, constantly creating a new present that is capable of overwhelming even the past (Harvey 2000). However, even this rapid fluidity and change becomes grounded in place, itself a process, in which these forces gain their material reality (Massey 1994). In today's Appalachia, this rapidly changing materiality has visible existence in the rapid expansion of mountaintop removal mines. Ridge after

ridge of mountaintops are blasted, removed, and dumped into valley streams—as if a massive steamroller has passed over the region. This landscape is the material form of the new present created by the summation of recurring waves of accumulation.

The movements of accumulation feed into the disorder inherent in the institution of property, which already works as one bridge between complex human and environmental systems. The system of capitalism creates another bridge linking the human and environmental, but a bridge that interacts with the existing bridge of property. These two bridges not only are constantly changed, but also change the feedback loops linking humans to their environments. Both systems attempt to create order, sets of rules enabling a smoother flow of actions and allowing expectations to come to fruition. However, in interaction with nature, both quickly break down into complex patterns of disorder. Thus, accumulation's interaction with nature is a constant process of flux, in which nature, property, and the processes of accumulation change in ongoing response to each other.

With nature, and its extraction, as the necessary landing point for capital, nature becomes produced in the image of capital, and thereby degraded (Smith 1984). This degradation forms part of Bakker's "ecological fix" to the crises of capitalism. In addition to extracting value from labor, capital also extracts value from nature in order to overcome its tendency toward crisis and these two extractions exist in a linked relationship to each other. However, these changes cannot exist outside of the biophysical characteristics of nature, and through this link the natural becomes entwined with the socio-economic in complex ways (Bakker 2003). Thus, land and property provide necessary services to maintain the stability of the capitalist system in the face of

constantly looming disorder. The goal of any of these fixes to the crises of capital is to create order, even if it is necessarily temporary and constantly pulling towards disorder again. The waves of this process have helped create Doreen Massey's progressive sense of place with layers of change covering the changes that have happened in the past (1994: ; 1995). The institutions of property and capital, tied to accumulation through both socio-economic and biophysical systems, have created a progressive advancement of private property and accumulation; the characteristics of both constantly changing to rectify for disorder. Ironically, it is this constant change itself that increases the disorderly tendencies in the system. While providing immediate stability, over time the changes create fluidity and confound expectations.

In the Appalachian coalfields, the forces of primitive and capitalist accumulation often occur either simultaneously or wane and wax with first one ascendant, then the other, and then the first one again. This interweaving of primitive and capitalist accumulations is one function of the disorder and complexity inherent in the concept of real property in land. They provide a mechanism for creating semi-stable structures out of an unstable system. However, the disorder in the system creates the conditions where a structure that is stable for one period will destabilize and create the necessity for a different structure to emerge in order to create the stability needed to avoid crisis in the capitalist system. Both primitive and capitalist accumulation are the functional forms of this temporary restabilization. This disorder also allows the accumulations to fracture and occasionally operate as component parts, rather than entireties, if necessary to react to situations as they exist. Through an examination of the history of accumulation in the Appalachian coalfields, the complexities of these patterns will become apparent. In Noel

Castree's words, these complexly interrelated systems are best understood using a "messy green Marxism" (2002).

History of accumulation in the coalfields

> 'We want our kids to have Thanksgiving, Christmas and toys', said Berry, who lost his job on Monday. 'It won't hurt nothing. We've got nothing to do and nowhere to go' (McElhinny 1999).

In colonial America, both the English Crown and individual colonies granted large tracts of land to individuals, often as a reward for service. By 1745, the colonial government of Virginia had granted 650,000 acres in modern West Virginia alone (Rice 1970), with more grants following the wars of the eighteenth century. In addition to these grants, the French and Native Americans granted access to large tracts, in some cases the same tracts granted by the English, which caused a long period of activity in the courts and elsewhere to determine which large landowners actually had the right to control the land. Thus, large, absentee landowners already held much of the land before small holders colonized the region. Landowners parceled these large tracts into smaller holdings and sold them to speculators and settlers. As the first wave of European settlers arrived in Appalachia early in the colonial period, however, the mountains themselves created a barrier to dense or widespread settlement (Campbell 1921). Consequently, the region long maintained its rural character with thinly spread homesteads and farms throughout the hills. In the early days of the United States, many people bought, sold, and swapped these land claims in waves of massive speculation over the values of resources that the lands held. Additionally, multiple grants were again given to various tracts of land, causing court battles that dragged out many years (Rice 1970).

The following sweep of primitive accumulation happened with the original European settlers of the area, who removed the land from the Native American groups. The “Indian Wars” shaped early settlement of the Appalachian Mountains, and this set of cultural beliefs is illustrated and continues through the legends of the mountain men like Davy Crockett and Daniel Boone. Land transferred from the large, communal holdings of the Native Americans to both large and small private holdings of the colonists and early citizens of the United States. The processes of land grants followed by settlements formed two slightly different waves of primitive accumulation. The grants passed legal ownership and control of the property, but often only minimally affected the use to which the land was placed. The settlement processes that followed this granting affected land use as new occupants arrived to remove the previous occupants and establish new and different land uses. Thus, even in its beginnings, primitive accumulation in Appalachia was not straightforward, but divided into separate legal and material processes.

Eventually, as land grew more scarce and expensive in the East, more people moved into the mountains, where low land prices made taming the hills and forests worthwhile. Road construction began in the early 1800s, making more areas accessible to settlement. Occasionally, the river valleys provided a wide enough location in which to settle a town, but even today, many of these towns are one or two streets wide, hemmed in by the surrounding mountains. Early settlers were largely farmers, raising livestock (hogs and sheep) and growing corn (often made into whiskey) along with other crops for home-subsistence. The modern development of the Appalachian landscape came with the arrival of the railroads that allowed the extraction of coal; timber; and other natural resources including charcoal, salt, and skins. Although the region has seen

several timber booms and a major salt industry in the Kanawha Valley, the coal industry has always been the driving force for Appalachian industrialization. Modernization and industrialization brought about another wave of accumulation.

In the early 1800s, iron furnaces began to appear across the landscape, drawn by the presence of the hardwoods needed to create the charcoal used as fuel. The iron tycoons became the first industrial owners of large tracts of land, as they needed land not only to extract the iron, but also to hold the hardwood fuel and provide farmlands to feed workers (as the road system was still not developed enough to allow the affordable import of food.) Regional iron production peaked shortly before the Civil War and went into decline as clear-cutting around the furnaces removed nearby (and inexpensive) fuel, and due to the general slumping financial trend linked with the post-Civil War depression. Around the same time, remaining iron production began to switch to coal (transformed into coke) for its major fuel – providing the first impetus for large-scale coal mining (Davis 2000). During this period, land took on new values as a holder of resources and became more desirable for large-scale acquisition.

Following this, another wave of accumulation appeared following the American Civil War and continuing until the end of the nineteenth century, focusing on acquisition of the coal and other resources that the land contained. Originally, this process happened through the actions of wandering land speculators. Men would journey through the hills, purchasing the mineral rights to land from the landowners they found, often for very little money. Interestingly, both sides in this transaction felt that they were taking advantage of a fool. The speculators felt they were getting the deal of a lifetime, by taking all of the real value of inaccessible rural land in exchange for pennies. The landowners felt they

were selling off a resource they would never use and that in all likelihood no one would ever come and take. Additionally, if the mining were to happen, underground mining, which was the only style existing at the time, would not inhibit the ability of the farmer to grow crops (Caudill 1962). In this manner, speculators stripped surface landowners of what would become not only the economic value of the land, but also the power to make land use decisions.

After West Virginia became a state in 1863, another massive wave of legal primitive accumulation occurred, when state law placed "waste and unappropriated lands" into the same category as "forfeited and delinquent lands" – allowing vast tracts of land considered unused to be sold at auction as tax forfeitures. This action was one of a series aimed at severing ties with the government of Virginia and creating full independence from that government. This period allowed many of the old, colonial claims to be shut down, in favor of new, industrial land speculators (Lewis 1998). Meanwhile, many land speculators and industrial landowners began a pattern of nuisance suits against locals with competing title to the lands. While these suits often were in the end lost by the land companies, they were long and expensive and established the political message that industry could make life difficult and expensive for a smallholder, if he or she refused to go along with "progress" (Lewis 1998).

When coal mining began around 1800, it was limited to serving the needs of blacksmiths and salt extraction, until people discovered its usage in making iron. Once this happened, the region saw its first major boom in land speculation, as northern American and British capitalists began purchasing large tracts (often without even seeing them) in order to obtain coal and timber reserves. These land companies rapidly

purchased nearly all of the land currently held by speculators, as well as tax-delinquent lands and lands deemed too hilly to cultivate (Davis 2000). Railroads began to be run into the mountains to aid this extraction and industry fully reached the Appalachians. Through the railroads (as well as mining technology) the landscape began to be changed—which caused change not only on a different scale, but of a different type entirely (Marx 1964). Following the acquisition of coal lands, the first coal boom began in the region, in the years around 1900. This coal production followed the infiltration of the railroads and spurred the building of more railroads, which made the acquisition of greater land holdings practical (Rice 1985).

Once speculators claimed the "easy" lands, capitalists needed to find alternative ways to gain the large tracts needed for industrial extraction. There was very little public land in the region, which pushed all the land transactions into the realm of private contract—individual decisions had to be made over each tract of land separately (Lewis 1998). This private character was the distinguishing trait of land development in the Appalachian coalfields, driving the types of primitive and capitalist accumulation as well as the shape of coal mining and environmental change. From the purchases of the speculators, mineral rights and mineral lands together entered into land portfolios from whence they were bought and sold by coal interests, gradually becoming more and more philosophically removed from the character of real property that they once represented. As will be addressed further in Chapter 7, these lands never returned to any sort of land market (Appalachian Land Ownership Task Force 1983).

The mines became the dominant economic driver within the region. Initially, mining operations per se caused minimal physical displacement of people, as an

underground mine has a relatively small footprint on the landscape. However, these mines needed labor, and in order to draw from the local labor pool, they needed to displace more people from their lands to enable them to work in the mines. This dispossession was achieved through the creation of a cash economy in a region that had earlier relied largely on barter of crops, furs, and other environmental products. Property taxes began to appear, with people needing to raise cash to pay the government. Additionally, the process of "Americanizing" the mountaineer as a consumer began, with an influx of stores and advertisements for goods, which required cash purchase (Hennen 1996). As people began leaving farms, to find work for wages (often in mines, but also in timber), this removed the strongest working hands from the farms. Many farms became progressively less profitable and less able to support the parts of the family who remained. Eventually, these families began to leave their devalued farms to follow the breadwinner into the town or the coal camp, and families sold their farms at deflated prices, most often to coal interests. This dispossession enabled one transformational phase from primitive to capitalist accumulation through, first, dispossession, followed by the incorporation of the local people into wageworkers.

As industry became the dominant economic force in the region, it also began to exert its political power over the legal system. West Virginia and Kentucky changed nuisance laws to favor industry, where industrial land use came into damaging contact with agricultural land use. Land became governed by the principle of "reasonable use" where the burden was on the farmer to show that industry was harming him, rather than the general rule of strict liability, making the higher intensity (and newer) land use show

that it was not negligent[7]. This shift represented a move from "natural" rights to the cost-benefit analysis of legal positivism (Lewis 1998). The shift also created a type of legal primitive accumulation, shaving a few land use rights here and there, and passing them from agricultural to industrial landowners.

Meanwhile, U.S. government policy throughout the nineteenth century centered around the privatization of property, by whichever means was appropriate to the place in which the land was found (Robbins 1976). Appalachia was no wide-open West with lands free to any homesteader or squatter ready to establish adverse possession, but the period saw a trend of federal policies that made acquisition of lands easy for those who understood the system (Rasmussen 1994). In many ways, the acquisition of lands by large-holders was cheered and encouraged by small-holders, anxious for the day when they might become large-holders themselves (Walker 2001). Indeed, some made that step, but the majority of the property in the region was held by absentee owners from outside (Rasmussen 1994). In this manner, a pattern of a flow of resources out of the area became established.

Twentieth century accumulations

> And the law, that is the perfection of reason, cannot suffer anything that is inconvenient. *The First Part of the Institutes of the Laws of England* by Sir Edward Coke, Section 97b.

Following these waves of mixed primitive and capitalist accumulation, the dominance of the mining property rights was secured, but was not completed. Mining interests held much of the land, but other property rights stood in the way of their eventual expansion. The next wave of accumulation linked to the changing technology of coal mining. Once a workforce was displaced from the land and pulled fully into the

[7] The main national body of these laws developed from the many cases of cattle hit by trains.

industrial economy, and the inflow of immigrants to work the mines began to slow, labor costs began to grow. The unionization of coalmines in the early twentieth century increased wages, improved working conditions, and raised the costs of production. Following the rise of labor costs, the underground mines became increasingly mechanized through the middle twentieth century: but, because of the constraints created by the physical challenge of working underground, still required large amounts of labor, but often in support roles for the machinery. Technology rode to the rescue of capital when large earth-moving equipment made it much more profitable to strip or surface mine. While modern surface mining began in the 1930s, by the 1970s it began to surpass underground production. Surface mining was able to operate with far fewer workers than underground mining, and avoided many of the challenges such as gasses and roof-falls that plagued underground operations.

The severance of the mineral estate from the surface estate creates a different relation between parties themselves and with the land and the law. The mineral estate is generally severed by a mineral deed—with the particular minerals listed in the granting clause of the deed (e.g., Rock House Fork Land Company v. Raleigh Brick and Tile Company, 83 W.Va.20 (1918)). This severance allowed the surface estate and the mineral estate (or multiple mineral estates) to be owned by separate people. A single piece of land can have a variety of different owners with one person owning the surface, another owning the coal, a third owning the oil and gas, and a fourth owning the timber. (This arrangement still leaves room for several other potential owners.) This matter is complicated by the fact that land deeds are framed primarily within an individual contract and thus governed by the private law set up by the terms of the contract. Each deed may

have different wording, so it is difficult to make generalizations in the courts or legislature that set rules for these transactions.

Traditionally, the surface owner retains the ownership of all minerals not deeded. Often the deeds that transfer the minerals are unclear and include phrases such as “all other minerals” along with a specific deed of coal rights. Courts interpret these deeds to include an implied easement allowing surface use in order to extract the minerals. For an underground mine, this implied easement would include rights such as to construct road or rail access to the mine and use of surface waters for washing the coal. In many cases in surface mining, this implied easement extends to allow destruction of the surface (right of removal) through surface mining. This is problematic; because many of the deeds were written before surface mining (beyond bucket-and-shovel operations) was a technical possibility. Since the development of mining methods that removed the surface, a variety of conflicts has evolved over the content of these old deeds and the rights they conveyed.

The development of surface mining radically altered the ownership patterns of real property in land. The land resource, which was once immovable, suddenly becomes fluid and changeable. By this point, most surface owners had sold the mineral rights underneath their land. Some did so in transactions that protected their rights to the surface, but many granted, in addition to the coal (and often other resources), the right to use the surface in whatever way was necessary to extract the coal. At the time the rights were sold, the major method of coal mining was underground mining; and, while surface mining has always existed at points where the coal outcropped on the surface, the new methods of surface mining caused much greater change to the landscape. This change in

mining technique also changed legal rights to land use. An underground mine's surface impacts (roads, ponds, and mine buildings) while disrupting and often polluting, do not remove the value and productivity of the land itself. Surface mining, of necessity, removes the surface of the land. Thus began an expanded wave of accumulation where the mineral rights gained a dominance expanding vertically over the surface rights.

Today, what lies under the land is often owned by a different person than what is on top of the land. Additionally, the coal (or oil and gas) that lies beneath the land is usually worth more than the farms, timberland, or wilderness that covers the surface, so the law set the mineral estate in dominance over the surface estate. Whoever owns the minerals chooses the use of the land, and can generally perform any action to the surface to extract the sub-surface value. In the cases of underground mining and oil and gas, these rights are often minimally invasive, ranging from roads across the land at the least, to surface subsidence at the worst. However, strip mining changed the whole equation—because here, the courts upheld that mineral owners had the right to strip mine (remove the surface) without consent from the surface owner or payment of compensation. This rule was not questioned until the Kentucky Court of Appeals reversed it in 1968, but, even then, only applied the decision to improved agricultural land, and general hillsides could be mined without consent or compensation (Martin v. Kentucky Oak Mining Co., 429 S.W. 2d 395 (1968))[8].

Kentucky once had one of the broadest interpretations of all, in the form of the broad-form deed, which granted all minerals and the entire underground estate, as well as

[8] Real property law is generally "common law," law carried over from the English tradition, determined by each state on its own, and seldom legislated. Therefore, there were few statutes that governed property (before the birth of environmental law in the 1970s) and most of the law was written by judges through hearing court cases.

all ability to use the surface and a release of all liability for surface damages (upheld in Martin v. Kentucky Oak Mining Co., 429 S.W.2d 395 (App. Ky. 1968)). The broad-form deeds were old deeds, generally signed in the nineteenth century, selling the rights to the sub-surface minerals and granting the rights to use the surface as necessary in that process. At the time the deeds were signed, there was no such thing as surface mining; it was only over the years to come that the technology developed to be able to remove the earth from over the coal. The mineral owners claimed that these deeds gave them the right to mine the coal by surface mining or whatever method was necessary. The surface owners claimed that since the signers of the deed could not even imagine the removal of the surface, those rights were not included. They also claimed that the surface mining process removed all their property rights as surface owners and deeds that granted those rights would have explicitly sold the surface estate as well.

Kentucky courts consistently upheld the broad-form deed as granting the ability to surface mine (Case v. Elkhorn Corp., 210 Ky. 700, 276 S.W. 573 (1925), Buchanan v. Watson, 290 S.W. 2d 40 (1955)). The broad-form deed was interpreted as giving the mineral owner all rights to control the land. "We feel we have been forsaken, that we have no rights when a county sheriff can order a man off his own property and tell him he is trespassing; that he will be jailed if he doesn't readily comply" (Montrie 2003: 74) (quoting from *Mountain Eagle*, 3 June 1965, 1-2). Resistance to this interpretation spurred community resistance—a resistance based in individual and private property rights. Groups that formed to fight the broad-form deed expanded and diversified, becoming general-purpose social justice organizations.

After a long, and increasingly violent, fight that included several failed attempts to overturn the deeds legislatively, community organizers finally succeeded in passing legislation outlawing the most expansive interpretations of the broad-form deed allowing surface mining in 1984. In 1987, the Kentucky Supreme Court struck down the legislation as unconstitutional, and the broad-form deed was back in play. Finally, in 1988, the groups decided to amend the Kentucky Constitution, and Amendment 2 won 83 percent of the popular vote and became law (Montrie 2003) as a state constitutional amendment[9]. This amendment bars ex post facto interpretations of older deeds, allowing only methods in existence at the time of the deed to disturb the surface. This, in turn, is one of the reasons that mineral companies are currently purchasing the surface rights as well as the mineral rights. While the broad interpretation has died in most states, courts are still unlikely, except on the oldest of deeds, to interpret them as reserving the surface for the surface owner, and most deeds broadly grant some sort of surface use—which, in turn, creates an allowance of surface destruction.

However, this victory was a small one, as what the landowners gained was notice of mining and compensation in the cash value of the mined land. Generally, all the reservation of surface rights gains the surface owner is some payment for land destruction in strip-mining, and the fights are over compensation. In rural areas with a deflated land market, this payment was often very small. Control of the land stayed with the concentrated coal interests; doing otherwise would threaten to disrupt the economy of the region that relies almost entirely upon extractive industries. Still, notice and compensation began to shift the expectations of the landowners who held the surface-rights in mining areas.

[9] Ky. Const. sec. 19(2).

Other disputes focused on equitable taxation of land and minerals. Corporate interests, based out of the region, own vast amounts of land in the coalfields. (If they do not own the land outright, they control the mineral rights under the land.) These interests fought hard to keep their property taxes low, and in doing so gained control of the state government of West Virginia (Rasmussen 1994). The resource landowners enforced a pattern of taxation that served their interests. Land containing coal, which is not currently being extracted, was valued and taxed at the surface value—and the surface owner paid the taxes. Land directly owned by coal interests qualified as non-farming rural land, which was taxed at the lowest rate of all. Coal was only taxed upon its removal from the land, in the form of severance taxes, which were deliberately kept low to encourage coal development (Rasmussen 1994: ; Allen 1993). "Because so much of the timber, minerals, and land had been bought up by northern speculators, and many of the companies were controlled from outside the region, the great wealth of the land flowed out from the highlands never to return. As a result, many of the people and much of the environment of Appalachia have been impoverished" (Montrie 2003: 16-17). Many people in Appalachia resisted the fact that the largest and wealthiest landowners were taxed at a rate much lower than poor and middle-class residents (Montrie 2003). Others see this weak tax base as the cause of ongoing problems of development in the area – such as lack of funding for schools, roads, and community infrastructure projects (Rasmussen 1994: ; Allen 1993). Groups that formed in resistance to these structures morphed into more general purpose activist groups, such as the change from the Kentucky Fair Tax Coalition to Kentuckians for the Commonwealth (keeping the acronym KFTC) (Montrie 2003).

The interpretation of the broad form deed as allowing surface destruction worked as both legal and material primitive accumulation. The legal mechanism allowed an expansion of control over the land, without a transfer of any physical ownership of the land itself. However, this legal mechanism was tied to a material expansion of usage rights over the land. The deed interpretations established the general principle of the dominance of the mineral estate over the surface estate in a pattern of vertical primitive accumulation. Land rights were placed within a system of vertical hierarchy that enabled new spatial aspects of primitive accumulation to emerge. The fight over the broad-form deed resulted in one of the few reversals of the expansionary control of capital that the region has seen. While the material gain of notice and payment may have been slight, it shows that primitive accumulation is not inevitable and the mechanism can be reversed, even after it is operational.

Current wave of accumulation

In the 1990s, another wave of accumulation began to occur as technology shifted once again to enable the extremely large-scale mountaintop removal mines. This contemporary accumulation exhibits characteristics of primitive accumulation, but illuminates several different stages of the accumulation process, as well as several different methods to achieve use and control of land. It is primitive in that it creates the transfer of rights in land without direct arrangement or payment. The practice of mountaintop removal mining gradually removes aspects of property value such as clean water, quiet enjoyment, and other aesthetic qualities that add to land value. However, this acquisition does not transfer the land itself; it merely removes all value, performing

the function of dispossession. At that point, a market purchase at greatly deflated prices can take place performing the accumulation function.

While surface landowners are now given notice and payment for mining on their lands, mountaintop removal mining is much larger and not only sprawls over parts of a tract of land, but often multiple tracts of land in large areas. The method completely re-shapes the land, as mountains are leveled and valleys are filled. After this radical reshaping, the land no longer bears a resemblance to what it once was. Additionally, reforestation and de-compaction of the soil seldom happen, and the land is left as a hard-packed flat area planted with non-native grasses, and is no longer viable for farm or rural use. Thus, the surface owner has lost the value of the surface land in totality, not just for the period when mining is happening, but afterwards for the foreseeable future.

This mining builds upon all of the previous waves of accumulation, from the purchase of the mineral rights to the severance of the mineral estate from the surface estate. These earlier primitive accumulations were followed by vertical primitive accumulation, when the exercise of the rights over the mineral estate removed all value from the separately owned surface estate. The land has undergone a vertical severance, where the mineral owner is able to utilize spatial power to perform the dispossession. This process dispossesses the surface owner in two ways. First, the owner is temporarily dispossessed from all access to her estate while the mining takes place. Second, the owner is permanently dispossessed from the values held by the land, both for economic production and for environmental services. While destroyed land may ecologically regenerate itself over a long period, that time is not within the same scale as human ownership and use. Thus, the dispossession is permanent, at least within the human time

scale. The key difference that this method of accumulation has from traditional primitive accumulation is that the means of production are not transferred to the capitalist; they are simply destroyed.

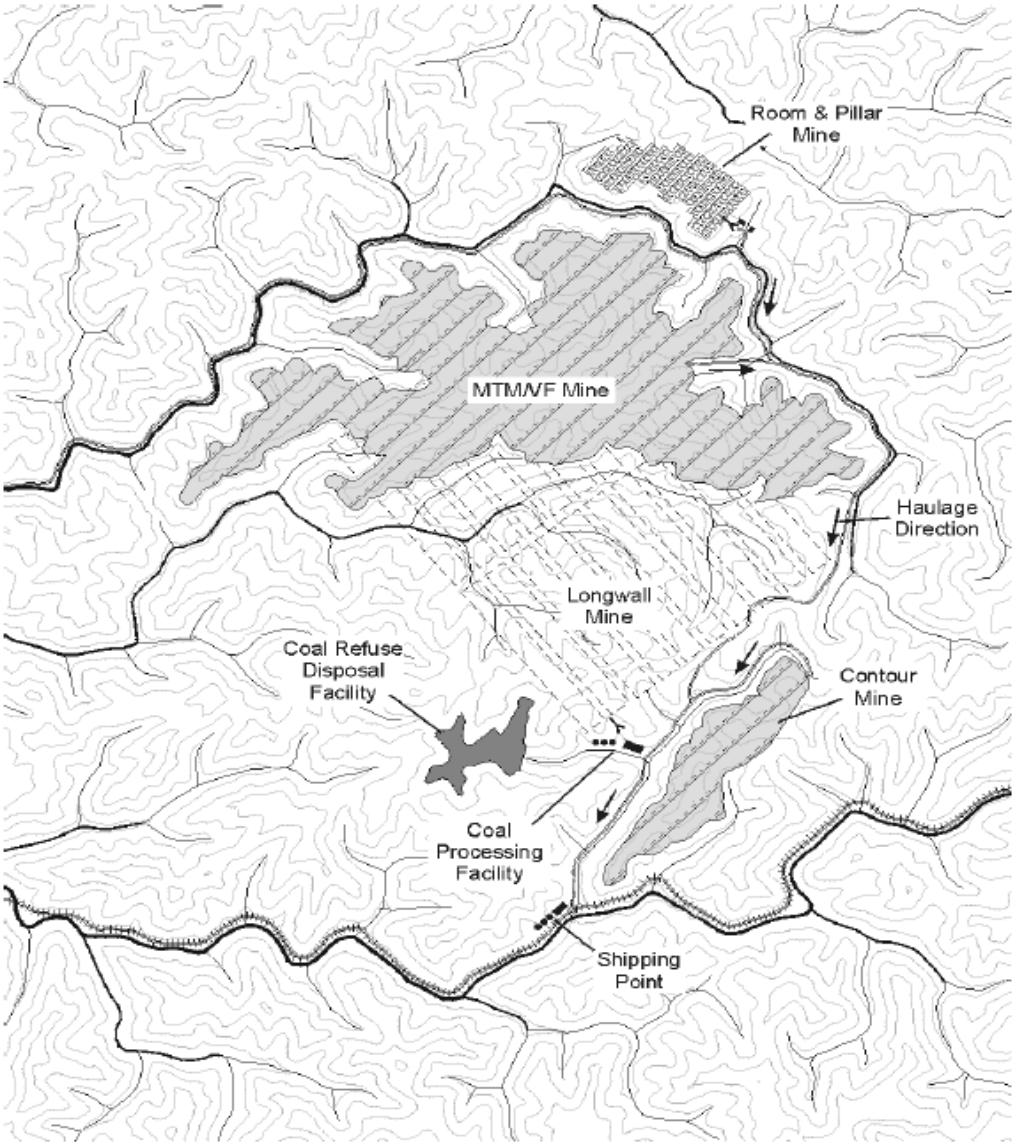

Figure 3.1: Typical mining complex components
Source: (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003)

The second pattern of accumulation is different, and centers not on the rights tied to the land being mined, but instead to the rights of the surrounding landowners. Mountaintop removal mining involves great amounts of blasting and other disturbances, which produce noise and shaking, but more importantly actual damage to the lands that surround it. Wells and foundations are cracked, rock fly through the air striking buildings and such, livestock spook and become less profitable, and, generally, mountaintop removal mining is incompatible with any surrounding land uses. The act of mining removes the value from the neighboring plots of land. This process of dispossession moves horizontally outward from the mine. As in the first case, the full value is not capitalized, but rather destroyed. The value that is held by the coal is taken, and the remaining land values removed. In most cases, the mining companies are willing to buy out the landowners around the mine, in fact often they are very happy to do so in order to expand the size of the mine; creating an episode of accumulation that is enabled by the dispossession of the value of the land. In a deflated property market, even above-market prices are severely inadequate for purchase of another property, and most property transfers for a far lower price than it held before mining began. Thus, this wave of accumulation expands the dominant form of mining property rights horizontally to the neighboring properties, working with mechanism of primitive accumulation.

One story

This story of modern accumulation repeats in many places. One instance occurred in an area of West Virginia, which used to house the villages of Mud and Big Ugly. While those names do not advertise the environmental beauty of the region, "It

was beautiful around here until they started blasting away the mountains," said Lucille Miller, (Lambrecht 2004). These areas sit on the banks of the Mud River, where mountains loom overhead creating a sheltered cove where small homes and gardens fade into wilderness. On what was once a family farm, members of the family are divided about the fate of their family property. According to Appalachian inheritance traditions, upon the death of the heads of the family, the property passes equally to all children. In a small number of generations, this can create a vast number of descendents who hold some interest in the land. Some of the family remain on the property, while others have moved away to find work and other opportunities.

Arch Coal wished to purchase the farm, in order to expand their mountaintop removal mine called Hobet 21. Among mountaintop removal mines, this mine is not a bad one. Hobet 21 has won several state and federal awards for reclamation over its twenty-five years of operation. It is, however, one of the largest mines in the eastern United States, covering 50,000 acres of past, present, and future mining rights (Messer 2001). Over time, Hobet 21 has expanded, cracking home foundations and wells with its blasting, the noise of which has scared much of the wildlife away. The road through the area is deteriorating due to the constant runs of overloaded coal trucks. Flooding has increased and can now happen at irregular times instead of the planned for spring floods as the snow melts into the river. The blasting at the mine has caused a severe problem with fly-rock, which soars out of the mine onto neighboring property. “They did get a rock that rolled down toward the county road, but that was all taken care of. It's a separate permit, so it's not affected by the pattern of violations we cited at the other permit,” a state Division of Environmental Protection (DEP) inspector commented. The

DEP has issued the mine a series of citations for blasting violations, and twice come close to shutting it down (Ward 2001). Property values, never high, have plummeted to nearly nothing. Neighbors complain about the damages, and while sometimes, the coal company repairs wells or delivers water, at other times the residents have to pay for the repairs themselves.

Meanwhile, some of the heirs want to claim some remaining value from the property before the nearby mining destroys it forever. Others want to remain on their family's land. The family has already willingly sold two-thirds of the 75-acre farm to Arch Coal. It is the remaining 25 acres that is in question as the case heads to the West Virginia Supreme Court. Under state law, if a group of heirs cannot come to a unanimous decision about the disposal of the property, the judge can force partition – a sale of the land with processed split in an equitable manner. It is this piece of inheritance law which is being tested in court (Lambrecht 2004).

Mechanisms of primitive accumulation work in multiple ways in Mud and Big Ugly. The removal of value from the lands surrounding the mine is a necessary consequence of mining, and an act of dispossession that expands horizontally over the land. The mining removes the qualities of a piece of property that enable it to support human life – clean water, stable homes, and freedom from fear of death or severe bodily harm. In doing so, the operation of the mine destroys all value that the property held, other than the value of the coal. This process moves seamlessly into an eased primitive accumulation, enabling a purchase of the land at fire-sale prices. This family farm illuminates that this process may not be inevitable. It can still be fought in the courts but

that process is a long and difficult one. Even if the Millers win, their reward is a piece of rural property, next to a mine, stripped of all economic value.

Conclusions

Accumulation progresses apace in the Appalachian coalfields. Over time, a series of fluid progressions between primitive and capitalist accumulation have occurred – all producing the same result, a transfer of ownership, value, and control of the land into the hands of mining interests. Primitive accumulation is certainly not relegated to some distant and misty past, but has occurred in multiple waves throughout Appalachia and continues today. An original episode happened with the removal of the land from its Native American residents and its transfer to colonial powers. It happened again with the removal of the mineral rights from the surface of the land through purchases by land speculators. In addition to these processes of standard capitalistic primitive accumulation, legal primitive accumulation happened through a series of land claims cases tied to the Civil War and the need for the new state of West Virginia to remove the influence of Virginia landholders. With the arrival of the coalmines and other rural industry, the farm population was pulled off its land and transformed into wage labor for the mines and steel furnaces, and forming one wave of capitalist accumulation. A deliberate policy of "Americanization", to move the residents fully into the cash economy, followed this dispossession. Accumulation continued into the twentieth century with the expansion of surface mining and the operations of the broad-form deed.

Rather than being regulated to the past, modern primitive accumulation has adapted its character to the conditions that it faces, and has acquired a new type of spatial component, expanding both vertically and horizontally in its search for value. This

expansion is tied to the material characteristics of mining. Vertical accumulation happens because the minerals lay beneath the surface of the land. With the courts declaring that the mineral estate's value granted land use decisions to the mineral owner, that owner (in ways that changed over time) becomes able to remove the surface and all its value, appropriating it through the "natural" operation of a surface mine. Horizontal accumulation ties to the expanding impacts that radiate from the blasting and reshaping of land and water that happens in a large mining operation. This time, the destruction of the value enables cheap purchase of land once its value is stripped.

All of these accumulations are inherently tied to the biophysical characteristics of the land, involving a multi-directional shaping and re-shaping of the human relationship to the environment through the mechanism of property. Today, the landscape of Appalachia is marked by a rapid process of material change, leading to instability not only in environmental systems but also in the political economic systems that have created the change. Consequently, the systems of accumulation also undergo rapid change in their natures in an attempt to impose stability on the system. The system is messy, fluid, and changing. It shifts in response to changed technology and circumstances, takes on new spatial characteristics, and adapts in the constant pursuit of the accumulation of capital.

CHAPTER 4

"PUTTING LIPSTICK ON A CORPSE": SOCIAL CONSTRUCTIONS OF PEOPLE, PROPERTY, AND LANDSCAPE IN THE APPALACHIAN COALFIELDS

> I still feel that it is impossible to have either strip mining or mountaintop removal and have adequate reclamation, which I characterize as putting lipstick on a corpse. - Ken Hechler (Vollers 1999).

Social construction is a powerful tool to help understand the people of Appalachia, their landscape, and the interrelations between the two. These constructions play heavily into how property is conceptualized, valued, and utilized. They also enter social structures and gain institutional permanence as they are incorporated into the law, which works as a solidifying mechanism for social constructions (Haas 2008 [in press]). In order to understand the interactions that both law and property have with environment and society, it is necessary to see and utilize the ideas that built these institutions.

This focus on identity, and its inter-linkages with the environment, is prominent within political ecological studies located in the developing world as part of a broader study linking humans to their environments. Society and social relations shape perceptions and interpretations of nature (Watts 1983). Study of these types of understandings was born in peasant studies (Scott 1976), transitioned to cultural ecology (Mathewson 1998), and finally emerged in contemporary political ecology (Bryant and Bailey 1997). Harner illustrates the construction of a new place identity tied to the built environment in Mexican mining towns (2001). Kepe and Scoones examine the residents

of South African grasslands, and how human values and needs shape and are shaped by the landscape with its biophysical properties (1999). Robbins and Maddock have shown how the differences between local and outside understandings of landscape have strong material effects (2000). In all cases, culture and identity link to the land and landscape.

These types of cultural understandings are beginning to be applied to the developed world, through work like Seager's examination of the role of women in the environmental justice movement as a tie between women's socially conditioned roles and society's environmental perceptions (1996). In order to uncover the role of property within Appalachia, it is necessary to trace these cultural understandings and bridge them over to the political economy of extraction, following this and other work in political ecology. Local knowledge and understandings are a key part of the struggle to create material environmental results (Robbins 2000). Within Appalachia, land and landscape play an important role in defining both self and community. "While land was something to be used and developed to meet one's needs, it was also the foundation of daily existence giving from to personal identity, material culture, and economic life" (Eller 1982). Social patterns, such as these, have economic purchase, and often emerge in extractive economies through the material patterns of extraction (Prudham 2002).

The people of Appalachia hold split opinions over the values and effects of mountaintop removal mining. These conflicting views emerge from understandings of identity. Some people frame the issues as holding onto their ethnic identity, which they see as tied to the environment and the mountains. The region has a strong folk-culture movement with a belief in preserving the "mountain" life (Stockman 1999: ; Clines 1999). Other people see the poor economic situation of the state as its primary problem.

They think that West Virginia has yet to enter the twentieth century, let alone the twenty-first – and needs to encourage industry and modernization in all forms, including shedding "backwards" patterns of traditional life. Many citizens will support mining of all types as West Virginia's only economic hope (Bowling 1999). Still others see extraction itself as the traditional life-way, gaining pride and identity from mining and related industries. Unemployment runs high in the coalfields and workers cling to the few remaining mining jobs both from economic necessity and pride in the past. Social and economic issues link to the environmental issues surrounding mountaintop removal mining, and emerge in the political conflict over the mining method and its effects often expressed in ideas about property.

An historic perspective on the development of ideas provides tools for understanding contemporary property regimes. Incorporation of multiple scales of time and place provides a richer understanding of change in place (Butzer 1990). One of the greatest benefits of utilizing the theories of political ecology is that they provide opportunity for synthesis, not only over time but also in linking ideas across disciplines (Turner 1989). This chapter will delve into some of the historic and geographic situatedness of the social constructions of landscape and property in the Appalachian coalfields, as necessary to understand the contemporary conflict over mining.

Another theme within political ecology is that conflict politicizes environmental issues and environmentalizes political issues (Harvey 1999). Discourse, whether political, environmental, or both, shapes governance choices and the rules that guide land use (Adger, Benjaminsen et al. 2001). Within Appalachia, mountaintop removal mining is a fully blended enviro-political issue, tied to multiple ideas and forms of conflict. In

order to work through the convolutions of these issues, one must understand the social constructions of landscape and property in Appalachia as enmeshed with ethnicity, identity, and values. Appalachia is frequently defined through its ties to the past both through pride in maintaining distinct folk-ways and as being the rare place in America where social patterns of the past maintain contemporary purchase. In order to understand the emerging patterns and tensions in environmental conflict, it is necessary to trace the construction of landscape and property surrounding contemporary mining.

Actions about the environment embody deeply held societal ideas built by society's power structures (Braun 2002). This chapter, and the next, will examine the building, implementation, and effects of these ideas. This chapter looks at the social construction of landscape and property, while the next will focus more narrowly and specifically on the role played by religion as part of this social construction. Social construction is a messy approach, as it exists in tension with realism, particularly when applied to nature with its raw, apparent bio-physical reality. Any social construction of nature is highly entwined with power politics over nature, and a social nature benefits different people than a non-social nature does (Demeritt 2001). Mountaintop removal mining is power writ large on the landscape, a power built from social ideas both by and about the Appalachian people. The removal of mountaintops and filling of valleys is the material and concrete result of the power struggle over who defines both landscape and property and visually illustrates the disposition of this struggle.

This chapter first looks at the role played by the social construction of the Appalachian people, as set apart from the dominant culture of America. It then links landscape into those understandings by illuminating the ties of land and landscape to

identity, with special attention paid to the construction and impacts of the idea of the "hillbilly." Following that, the waves of modernization and Americanization are examined as attempts to remedy the problems created when social identity is conflated with place identity. The chapter then turns to the specific process of the social construction of property rights, and focuses on one regional property right, the right to neighborliness, as an example. Finally, the chapter looks at the social construction of land and landscape within the Appalachian context, narrowing its focus to two particular landscapes: mountains undergoing both the drastic physical transformation of mountaintop removal mining and the social transformation of the building of a protest movement. Through this trajectory of linked social construction of the Appalachian people and the Appalachian place, these transformations are placed in context, and thus become more comprehensible.

Appalachians: the other white Protestants

> The same [economic] system that brought prosperity to some, impoverished others. Some filmmakers wanted to show the contrast to bring about social change. Others mined the images the way companies mined the coal.
> Elizabeth Barret, director of *Stranger with a Camera* (Newberry 2000)

To understand the Appalachian mentality, it is necessary to see how the Appalachian people see themselves as viewed by non-Appalachians. This odd construction includes both elements of how Appalachians see themselves and how outsiders see Appalachians, but operates as a dialectic. This theme, dominant within Appalachian studies literature, involves an intense internal self-reflection by a people who feel mistreated and misrepresented by the outside world, which pays little attention to Appalachian culture aside from a handful of missionaries and VISTA workers on one

hand and unflattering cultural portrayals such as *Deliverance* and *Hee Haw* on the other. The othering plays out in many cultures in constructing minority groups as outside of the system to wide-ranging and often detrimental effects (Said 1978).

The Appalachian people have been constructed as the great American "Other"[10] (Williamson 1995). They are consistently referred to as a sub-group that does not share the cultural characteristics of the dominant American society, however, this is a group that, unlike many other minorities, shares too many characteristics to be viewed as something entirely different (Shapiro 1977, 1978). The Appalachian people, as long as they donned standard American clothing and refrained from speaking their distinctive hill-twang, could stand in a crowd of American whites in any city and blend in. The danger presented by the Appalachian lies in both the similarity she bears with her counterpart in another, more Americanized, region and the potential he has to render that difference invisible.

In response to this potential invisibility, national media have constructed an Appalachian who blatantly stands out from the social norms outside of the region. The Appalachian person has been treated as the fool, the wild man or woman, the Robin Hood figure, the noble savage, and the monster (Williamson 1995). These constructions of the Appalachian people are still present today. It is seen in the good-natured hillbillies of *The Dukes of Hazzard*, ("just a good old boy, never meaning no harm"). The film version of the television show recently re-constituted the pattern of a highly sexualized noble savage, through the casting of Jessica Simpson, Johnny Knoxville, and Seann

[10] The other white Protestant is the dominant construction of the people of Appalachia, meaning a creation of Appalachian identity in comparison to that of mainstream white Protestants in the United States. Of course, there are many Appalachians of color as well as followers of all religious faith who have long been part of the Appalachian identity.

William Scott as the innocent hill folk fighting against the evil mining company that plans to strip mine the family farm. (The film also featured Willie Nelson as the moonshine making Uncle Jesse). The othering also appears in the sinister rapist of *Deliverance*, again illustrating a wild sexuality but in a more sinister way evoking bestiality ("squeal like a pig") and the trappings of sub-humanity. Recently, there has been some backlash at this othering of rural mountain people, as a large campaign was launched that successfully shut down the reality television remake of *The Beverly Hillbillies*. Miners and steelworkers joined the protest, and the proposed television show was denounced from the floor of Congress (A victory for 'reality': CBS: No Beverly Hillbillies 2003). Nonetheless, these images serve a useful function for American society, so "the rest of America can feel grown-up, responsible, and civilized" (Donesky 1999: 297).

The "mountain whites" of the region, while not the only ethnic group, became of the focus of examination within popular culture. Interestingly, Appalachia has become "whiter" than it actually is through its portrayal in the media, which gives close to no attention (other than James Earl Jones in the film *Matewan*) to the African-Appalachians, Italian-Appalachians, and others who fill profound roles in the history and culture of the region (Billings 1999). The image of the "mountain white" is that of the ignorant hillbilly who lives as part of nature without the advancements of American culture, but simultaneously with a dignity reminiscent of the myth of the noble savage. Incidents like the Hatfield and McCoy feud, which headlined the sensationalistic press of the day, introduced another set of images based in violence and brutality (Blee and Billings 1999), which has been echoed in more modern cultural representations, such as the film

Deliverance. This image directly transposed the brutal and backwards Appalachian against the modern American, in the form of violent homosexual rape, renewing ideas of the Appalachian person not only as something "not American" but also something dangerous. This view is not new, but dates back to the days of the Civil War when Rebecca Harding Davis writing in "local color" presented the dark, gothic Appalachia of violence and evil (Noe 1999). Meanwhile, other popular images, such as *The Beverly Hillbillies* and *Lil' Abner*, presented a parallel image in which the Appalachian is still something not quite American, but rather than the dangerous mirror became the clown, which even the least incorporated American could compare themselves favorably (Williamson 1995: ; Donesky 1999).

Through these images, the Appalachian person was "othered", but othered as "the other white", or, more specifically, the other white Protestant (Shapiro 1978: ; Williamson 1995). Literature from mainstream American society often referred to Appalachians to as a sub-group that does not share the cultural characteristics of the dominant American society. Will Wallace Harney wrote the first discussion of Appalachian-as-Other in his article "A Strange Land and Peculiar People" which appeared in *Lippincott's Magazine* in 1873. These trends continue today, as recently a Columbia professor, writing in the *New York Times*, referred to Appalachians as inbred, and the remark slipped past the editors as unexceptional, and not worth removing (Society for Professional Journalists 2007). As such, the Appalachian became much more threatening because while white Protestant middle-class America could easily distinguish itself from African-Americans, Jewish people, Catholics, and other types of Americans, the mountain white resembled their image in the mirror. Treatment of

Appalachians in the popular press was often framed around the theme of "there but for the grace of God go I." However, Harney and others simultaneously tied this othering to the land and its physical characteristics. These people were different because they came from a different sort of place. This othering is not specific to the Appalachian region, as David Harvey explained, "Capitalism necessarily and always creates its own 'other', which exists in an organic relationship to production" (Harvey 2003). This other is both an 'other' people and their existence in an 'other' place, to enable the spatial fix to the crises of capitalism.

Landscape and identity

> 'I think that people need to have a visual aide to understand the scale and scope of destruction of mountaintop removal,' Stockman said. 'We'll have photos of them ... It hammers home the point that mountaintop removal is too costly a way to be giving away our energy', marching down the street with a decapitated mountain (Arnold 2000).

Many of the images of the Appalachians and Appalachia as a region are tied directly to the land and the landscape. Subsistence farming and rural self-sufficiency form the base of traditional Appalachian livelihoods, although few today are able to make their livings in that manner. With one of the economic bases being agricultural livelihood, the natural flow of the seasons traditionally paired periods of intense work with periods of seeming inactivity, which became the lazy hillbilly sitting on the cabin porch with a rifle, a coonhound, and a bottle of moonshine (Precourt 1983). At the same time, most agrarian societies incorporate land and place into self-understandings, as do other societies that pull direct sustenance from the land.

One more modern image of Appalachians ties identity directly to extraction. This image focuses on the coalminer emerging from the depths at the end of a long day's pick-

and-shovel physical labor. He is marked head to toe with the earth as coal dust covers every exposed surface. This image occasionally invades our home through the television news, most often where there has been a major mining disaster leading to the loss of life. Again, this is an exportable image that parallels the 2007 Crandall Canyon disaster in Utah along with dirty miners emerging from the earth in mines from Bolivia, South Africa, and Wales. This identity is tied to the environment as well, both the bounty inherent in the earth and the back-breaking labor needed to extract it.

This time and place set economic and social patterns that were interpreted by an outside standard, that of modern American capitalist society, and, as such, not fully examined by their own internal characteristics (Precourt 1983). This time has passed, and the culture of the region has changed although external and othering interpretations have not caught up. Today, one would be hard pressed to find a barefoot woman smoking a corncob pipe, unless this woman is a costumed actor at a heritage festival. However, the long treatment as "other" strengthens identity markers, both internal and external. While different from the shape they took in the 1930s or 1970s, many of the cultural characteristics discussed by earlier writers remain, in a modernized and Americanized form. When these ideas from an earlier time were viewed backward through the American lens in the 1970s, contemporary values became misinterpreted as a relic of the past, emerging in popular culture as the lampoon *Hee Haw*. In the early 1970s CBS engineered a mass cancellation of all its rural-themed programming (*Beverly Hillbillies*, *Green Acres*, etc.), because it feared being seen as "the rural network" (Brooks and Marsh 2003). Still, hillbilly fare played well with the American populace,

and not only in the area of parody, as the 1980 film *Coal Miner's Daughter* reaped seven Academy Award nominations and won one[11].

One trend, highlighted in Loyal Jones' cultural characteristics of the Appalachians (Jones 1994), that maintains purchase in modern Appalachia although in a changed form, is the strong tie to landscape and place. The characteristics reference the spatial pattern of isolation, which causes a strong reliance on both self and the few people who are located in physical proximity. Although modern highways, television, and the internet have strongly lessened this isolation, the Appalachian Mountains have not been incorporated into the economic prosperity that marks the American landscape (Ford 1967). Today, unemployment rates in the region run between two and ten times those of the U.S. on average. These characteristics are shared among rural communities in many regions, as direct contact with land and livelihoods creates different understandings of what the environment truly is (Cronon 1997: ; Nesbitt and Weiner 2001).

In any rural existence people need to trust, completely and implicitly, their communities and families. Neighbors who do not share blood ties, but function in a familial manner giving help and sustenance, are informally adopted into the family, taking on the titles of aunt or uncle (Beaver 1986). However, this type of tight bond is also linked to a distrust of people outside of that small circle; and residence in the particular place of the community is often the determinant of influence, obligation, and trust. These aspects of rural life are often held as ideal by many in the mainstream American society (Danbom 1997). This idealization ties strongly to many social and political movements, such as farm policy (Dixon and Hapke 2003) and farmland protection (Bunce 1998), in North America. Thus, the discourse of past place is not

[11] Sissy Spacek won "Best Actress" for her portrayal of Loretta Lynn.

limited to negative stereotypes but also tied to strong traditionalist aspirations, providing a place that holds hope that the clock can be turned back.

The Appalachian rural existence is tied to the topography of mountains. West Virginians have long used the terms of the mountains—"hillbillies" (more derogatively) and "mountaineers" or "highlanders" (more positively)—to describe themselves. These word choices illustrate the way that the local definition of self ties into the existence of the mountains. If the mountains are removed, the state of the land can have strong implications on the self-determination of the local people and their cultural identity. Landscape often becomes part of cultural identity through the structures of power relations (Harner 2001). Mountain people shape their identity through a variety of forces. Some of the strongest include kinship, politics, religion, and a tie to the land and its history (Foster 1988).

Thus, landscape is incorporated into Appalachian identity, largely through a linking of the people to the mountains in which they live but also in the constructions of rurality and isolation. In different times this conflation has played out in different ways, both positive and negative, both internal and external. These constructions are backwards-looking in both time and place, attempting to construct a current identity from past events and lifestyles. The most biting way that this plays out is through the construction of the hillbilly.

Hillbillies

> This landscape gets in your soul. If you grow up in these mountains, it's hard to live outside. We're the West Virginia Mountaineers and our state songs all celebrate the mountains - it's our whole identity. I'm crazy about this state. – Mountain Party gubernatorial candidate, Denise Giardina. (Carlson 2000).

In order to mark the Appalachians as something different, American society needed to create a number of markers showing the Appalachian people as something different. In addition to the cultural markers of literature and the visual markers of film, a linguistic term also needed to be constructed. The names that greater American society uses to refer to Appalachians create another layer of this othering. The most common term is "hillbilly." The term hillbilly contains a variety of meanings. The hillbilly is fool and bumpkin, but also violent and virile. He is Davy Crockett, exercising quintessential American freedom. He is also the violent rapist in *Deliverance*, threatening American manhood to its core. (He is also, frequently, a she). The hillbilly holds a mirror to America, and defines it by showing what it is not (Williamson 1995: ; Shapiro 1978: ; Klotter 1980). More specifically, this definition is achieved through a place-based tag bearing specific reference to the hilly landscape as another visual tag meaning "not quite American."

Hillbilly has long been a fighting word within the mountain region, with usage allowed (although often frowned upon) internally, but woe be unto the outsider who uses the epithet in the hearing of a native.

> The South as a whole has shown the natural reaction toward any seeming suggestion of peculiarity on the part of any of its people, though at times it would appear to admit the same implication by its use of the term 'Hill-Billy.' It is as if two brothers reserved to themselves the right to call each other what they would and when they would, but united in resistance against an outsider who offered affront to a member of the family (Campbell 1921).

Thus, the term “hillbilly” has long been subject to the same type of debates that surround the cooptation of traditional derogatory terms by other groups. These debates, however, are quieter, more limited to the Appalachian region, and of course lack the ties to the strong violence that slavery performed on the African-American people. This process results in a construction of hillbilly as “white other” who is changeable in a way that the “non-white other” is not (Klotter 1980), but remains othered, nonetheless.

Scholarly studies have used more neutral terms, with a 1972 survey recording usage of the terms mountaineers, highlanders, southern mountain people, mountain people, southern Appalachian people, and Appalachian people (Ergood 1991). Another tag that was once frequently used in early scholarly literature was “mountain whites”—universally hated by all Appalachians, white or not (Campbell 1921). A common theme amongst these terms is that they link the identity of the Appalachian people to their place in the mountains, to region, and to land. In defining the people through their landscape, this construction seems to give power to the landscape in defining the people.

However, even within the academic literature, mountain people have been referred to as “Yesterday’s People” (Weller 1965), implying a belief of the people as stuck in the past and need to become like the rest of America to be legitimated (West 1970). It plays upon the linearity of modernistic development thinking, placing the Appalachian as a relic of the past, where people did not know enough to live better. This enabled a series of programs aimed at education as the key to raising the Appalachian people from their dirt-floored shacks into the technological marvel that is modern American society. Education programs in the region have a long history, beginning in

the 19th century with the settlement schools, often tied to mainstream Protestant missions (Stokely 1975).

In this manner, the hillbilly is defined by the Appalachian mountains and the isolation inherent in that place. Located solidly within America, the hillbilly is still not quite American, lagging both behind into the past and apart into the mountains. This tag is controversial, and like all ethnic slurs has done violence to the Appalachian people through the process of making monolithic a varied and diverse set of backgrounds. The hillbilly construct is backward, peculiar, and sometimes violent – defined in opposition to the modern, homogenized, and mostly peaceful American. The problem with a hillbilly is place, the problem with yesterday's person is time, and different problems create different solutions. As the place of the Appalachian Mountains seems permanent and unchangeable (although the mountaintop leveling of mountaintop removal mining may be changing this), catching up with time is more achievable. Thus, many social programs aimed at Appalachian society aimed at modernizing the mountaineer.

Americanization and modernization

> If the Statue of Liberty was in West Virginia they'd be tearing it up for scrap iron if it would create jobs
> (Carlson 2000) (quoting Denise Giardina)

Waves of modernizers have poured into the region, beginning with missionary activity by the mainstream Protestant churches in the late 1800s to early 1900s, who entered at the same time as the dominant wave of industrialization and capitalization of the region (Stokely 1975). Denigration of the local populations was one tool in enabling the entrance of external capital, as it created a view of people needing help, which made paternalistic policies more palatable (Precourt 1983). In the same way it is safe to

educate a child that a burner is hot and should not be touched, it is safe to educate the hillbilly that wage-labor is good and should be engaged in. Jack Weller's book, *Yesterday's People*, steeped in harmful stereotypes, was distributed as a handbook to VISTA workers of the 1960s and 70s, who came to the region to aid community development (Banks, Billings, and Tice 1993). Part sociological study, part how-to guide, this book set the rules for interaction with a backwards people, all with the aim of teaching them to be less backwards. If cultural traits prevented upward mobility, then the solution is to change the culture (Lewis 1966). For the hillbilly, one key to this is lessening the ties to the hills in order to erase the definition by landscape, exchanging that for a nationalistic identity with the whole of American culture. Development becomes a linear exercise in playing catch-up through cultural change (McKenzie 1989).

Among the Americanizing influences sent to modernize the Appalachian were two grand sets of government programs. First was the New Deal of the 1930s and 40s. The Great Depression hit Appalachia before hitting the rest of America (Hamrick 1998). Many Appalachians found work through such programs as the Civilian Conservation Corps, which built many parks and other projects through sparsely populated areas in the hills. The Works Progress Administration provided both jobs and education through its school construction and community development programs; its community arts center construction; and its training of females for the service industry, to integrate them into a modern workforce.

During the New Deal, government-sponsored photographers and writers descended on rural regions of the United States to record the poverty of the Depression. This program sent a flurry of images of the shoeless hillbilly alongside the dispossessed

migrant farm laborer across the United States. While the sheer volume of images of poverty during the Depression drowned the images of Appalachia as few among many, they did place the Appalachian in the category of people who could not help themselves and must be assisted by outsiders to live an American life. President Franklin D. Roosevelt's Farm Security Administration used photographs of Appalachia and Appalachians to illustrate the worst of rural poverty and gain support for wide-reaching federal programs. Photographs were later used to by coal companies to show how well they were turning the Appalachian people into good Americans (Buckley 2004). These outside views also, and just as undeservingly, elevated the Appalachian people. "The social construction of Appalachian people spoke to the need for a rising, urban-industrial middle class to see southern mountain people as a repository of an increasingly threatened republican inheritance" (Montrie 2003: 14).

Again, in the 1960s, the War on Poverty presented the Appalachians as a desperately poor people left behind by the times. During President John F. Kennedy's primary campaign, he focused heavily on West Virginia, feeling that if he, as a Catholic, could win that southern Protestant state; he could win the rest of the country. Even today, stories of Kennedy's visit still circulate the region as one defining moment for the state coming to national attention. He saw the poverty in which many of the region's people lived, and the region became one of his (and subsequently President Lyndon Johnson's) major foci. This set of programs had an explicitly spatial component, with one Appalachian Regional Commission staff report describing the Appalachian region as "an island of poverty in a sea of affluence" (Branscome 1977). Television news documentaries, such as Charles Kuralt's *Christmas in Appalachia*, brought home the

visual image of the dirty, shoeless Appalachian child in need of the bounty America could offer (Newberry 2000).

If physical isolation is the problem, then connections must be the solution. With the establishment of the Appalachian Regional Commission (A.R.C.) , one major set of programs to fix the Appalachian problem centered around building highways, to bring Appalachia closer to the rest of the United States (Bradshaw 1992). However, even this roads program became victim to the political process, often resulting in roads that did not so much serve the internal communities, as they provided a path to the outside. Some roads were pulled into more prosperous areas outside the region, as with the construction of Corridor E being shifted north from West Virginia into the more prosperous western Maryland, and the focus on linkages to metropolitan areas outside of the region (Whisnant 1980). This connectivity resulted in massive waves of emigration out of the mountains and into the industrial centers of the eastern and central United States (Branscome 1977: ; White 1989). Most of the programs of the War on Poverty and the Great Society focused on serving the needs of industry, often located outside the Appalachian region, rather than providing for the needs of the people in internally based development (Whisnant 1980). One of the results of this type of contact is the creation and strengthening of ideas of culture and ethnicity, defining a group by its cultural traits as a way of maintaining social order (Hechter 1975). The A.R.C., however, soon gained a reputation as a highway building agency. While it had jurisdiction over a plethora of programs including those that focused on industrial development, healthcare, and education, these programs were less funded and less successful, and disappeared while the highway projects remain (Wood 2001: ; Bradshaw 1992).

These images and programs spurred a flood of volunteer workers to join an older pattern of missionaries and other outsiders coming in to help the region, creating an image of Appalachian as poor, helpless, victim. These programs ranged from VISTA in the 1960s and 70s to today's AmeriCorps. External volunteerism as solution to Appalachian poverty tied to the idea that the Appalachian people were too backwards and stupid to help themselves, defining them as something less than human (Banks, Billings, and Tice 1993). Logically, therefore, any change must come from outside rather than from inside the region.

The alternative is to create the idea of the Appalachian as the noble downtrodden, as was done in Kai Erikson's book *Everything in its Path: Destruction of Community in the Buffalo Creek Flood* (Erikson 1976). Erikson examined the impacts on individuals and communities of the trauma over the break of a poorly constructing mining impoundment dam in southern West Virginia. When the dam burst, water scoured down the valley picking up everything in its path. The flood killed 225 people and left 4000 people homeless. Erikson saw the impacted people as abused by the coal company and ill-served by programs coming from the greater American society, but also saw the people as internally strong and noble (Erikson 1976). Whether positive or negative, these views all create problems, essentializing a diverse group of people (Banks, Billings, and Tice 1993) and removing control, of both the people and the land, from the Appalachian areas.

Many steps have been taken to integrate the residents of Appalachia into the dominant American society. Largely, these steps have been successful, and in the 2000 census more Appalachians listed their ethnic identity as "American" than residents of any

other region. Today, a visit to almost any Appalachian community would feature a McDonalds and a Wal-Mart; children playing video games; and, other than a largely rural quality of life, full integration into the standard American culture. Still, the stereotype of the hillbilly lives on, regardless of the actual living situations of the people in the region.

Land and property rights

> Up on the ridge above my house, there were three deer that came around, they don't come around as much now, because of the blasting. . . . We live with the mountaintop removal mining and longwall mining, that's why our people are so frustrated. We live with all these types of mining. (Ward 2000) (quoting Bragg, the named plaintiff in one of the major mountaintop removal mining lawsuits)

Within a traditional Appalachian community, land is the most valuable resource. Land availability is one of the major determinants of whether or not communities remain together, and a lack of affordable land is often a main driver for out-migration (Beaver 1986). Mountaintop removal mining, in removing the surface of the land, also removes economic usage of the land. Even after reclamation, the parcel is often unable to support farming or timber uses. Thus, in communities where these large mines operate, in removing land from the market, people are pushed out of the area.

Many of the disputes over labor, the environment, and landscapes tie back to ideas about private property rights. The existence of private property rights is not questioned – rather the interpretation of those rights causes problems. The disagreements are "primarily a dispute between property owners over the legitimate use of privately held land and its resources" (Montrie 2003: 3). The American Lockean tradition of the veneration of private property is strong in Appalachia, but it goes beyond that. Land is a powerful force and Appalachian people feel a strong love for it and connection to it

(Fisher 1993: 6; Bingman 1993)[12]. Land ties to the strong forces of identity, family, and worth. Surface mining conflicts challenge these forces directly, by removing the land itself and creating a direct threat against the homes of the people (Montrie 2003). "What I knew was deep mining. It wasn't so destructive. But then when we seen what strip mining could do, I think that's when people got really concerned and got afraid they'd really just bury the mountain people alive" (Bingman 1993: 19).

The ideas about nature held by the key players label some places as appropriate for production, creating distinctions that gain materiality (Mansfield 2003). In the Appalachian case, industry and government have together created a definition of the place as appropriate for coal extraction – and not much more. Extraction in America involved agreements between industry, government, and rural communities, but the stability promised to the communities never appeared and the increasingly global scale of extraction operations is leaving the communities that host them further behind (Prudham 1998). Meanwhile, the existing power structures assert their hegemony in ways that have material effects on the landscape (Harner 2001).

Regional power structures place a premium on useful land, thus land that can be mined should be mined. After mining, legal structures place a premium upon turning the land into some sort of economic use. This preference is strong enough to be included in the Surface Mining Control and Reclamation Act of 1977 (SMCRA), which allows mining operations to avoid the requirement that land be returned to its approximate original contour, if they can show a higher and better land use. Some mining companies seek economic use of post-mined lands. Jim Campbell of AEI Resources Inc. stated in

[12] This is a statement found repeatedly in the Appalachian literature – too often to be ignored. However, I feel this statement would probably be repeated for any group of people who had their ties to the land, and even the existence of the land, threatened.

an interview, “I'd never advocate that you get rid of all the ridges because you can't do that, but that's opportunity for the state” (Bowling 1999). His company has turned new flat land into sites for cattle ranching, a tree nursery, and the new Mount Olive State Prison. “We think we're doing good, responsible reclamation. We believe we're doing economic development” (Bowling 1999). The prison, however, has been plagued with problems as the mined-ground settles beneath it; the structure is developing cracks and subsidence issues, earning the nickname “Sink-sink.” Barry Doss, another representative of AEI stated, “It's valuable land. It's stable land . . . It's going to be a productive piece of West Virginia” (Bowling 1999). Locals do praise companies who mine with an eye toward future economic development – however development is not an area of expertise for mining companies who scout for any group able to utilize the land for anything, regardless of the economic return to the community or lack thereof. The most common usage for post-mined land is “fish and wildlife habitat” which is a euphemism for no economic use available. As these lands are in highly rural areas, largely unconnected to major roads, sizable communities, or even electricity and water service, providing the necessary infrastructural development for most manufacturing, services, or residential development would be prohibitively expensive.

For all the respect of private property rights in Appalachia, traditionally many mountain areas are viewed as commons for woodlands hunting and harvesting. Legal title matters little if someone is not directly and visibly using the land. Nuts, berries, herbs, and wild foods have traditionally been gathered regardless of property rights (Heflin 1974: ; Slavin 2002). Coal companies have now fenced and gated many of their lands, sometimes placing armed guards at the entrances (Slavin 2002). This is viewed as

the ultimate in bad neighborliness. Many residents, who did not originally oppose the mining method, have been confounded and even changed their minds when they were barred from hunting and fishing on land reclaimed after mining as “fish and wildlife habitat.” It just does not make cultural sense. Unless a property is “posted” with no hunting signs, hunters are allowed to go there freely, and unused land is seldom “posted.”

Mining companies wrap their reclamation efforts in this language, claiming they are creating a useful benefit for the community. As part of one lawsuit filed about the impacts of mountaintop removal mining, Mark White, manager of a Dal-tex mine, led the court on a tour of one of the reclaimed mines. He showed the court what he said was clean water coming through a discharge pipe out of a finished valley fill into a pond. “There's fish in there, wildlife?” Haden asked. “I've never fished it, so I don't know,” White responded. “But with the water quality the way it is, it would be a good one to stock.” (Ward 1999). However, for every healthy stream, there are many unhealthy ones, unable to support fish, invertebrates, or other marine life and vegetation. Complaining of the sterility of streams that had recently been stocked by a mining company, Rick Eades of the West Virginia Environmental Council said, “Tag one [trout] and see if it lives a year. . . . You will not find trout breeding in those streams. You can take that to the bank. . . . It has no biological balance,” (Bowling 1999). Because of this lawsuit, and other problems, Kentucky decided to perform a review of all permits issued for “fish and wildlife habitat” (Ky. agrees to better protect environment from mining after federal report 2000).

Coal companies have attempted to avoid confrontation by buying up homes near their mines. The standard Arch Coal contract includes a clause that bought-out residents

cannot a) ever protest strip mining, and b) live in or own property within a 25 square mile region around one of the company's mines (Forman 1999). The solution to a problem based in property rights becomes an even greater restriction on both property rights and personal freedom.

Mining methods and effects, economic development potential, and land-use are all parts of what makes a mining company neighborly. Failing to deliver on promises, or having the appearance of future non-delivery, creates a breach of the property right of neighborly expectations. "They claim to be good neighbors. No mentions are made of the hundreds of claims filed against them by their neighbors for damages to homes and property. They insist that communities cannot exist without mountaintop removal. They do not tell us that entire communities have disappeared due to the devastation of this type of mining," (Pease 1998). When a coal-slurry dam, owned by Massey Energy, burst, flooding Kentucky communities with 250 million gallons of coal-slurry, the *United Mine Workers* immediately started a campaign calling Massey the worst words they could use – "a bad neighbor"(Bowling 2001).

Neighborliness as a property right

> Although the task force at the three-hour Aug. 3 hearing certainly got an earful of angry complaints, the most dramatic testimony came from 10-year-old Kayla Bragg of Delbarton in Mingo County. Lowering the microphone so she could stretch up to be heard, Kayla began to describe the horrors of trying to live near the round-the-clock blasting above her home. In impassioned tones, she started to say: 'I don't want to lose my home' - and then could not finish because she broke down with sobs (Hechler 1998).

Loyal Jones defined the standard characteristics of the Appalachian people. Tied to these characteristics are certain ideas about property. One of the foremost rights is the right to good neighborliness. In terms of property, this is the right to have neighbors who

use their land in ways that complement (or at least do not harm) your use of your land. The right of neighborliness is similar to the legal doctrine of private nuisance, but different in subtle ways. Nuisance has evolved into a complex legal doctrine, balancing land uses for worthiness and economy against harms done to neighboring land and life. Neighborliness gives landowners fairly broad rights, but subjects them to a sharing of information and requires mitigation of harms. This pattern of the value of neighborliness is not limited to Appalachia, and can provide a key to understanding environmental behaviors, such as application of pesticides to lawns, preserving that perfect green look, and property values (Robbins, Polderman, and Birkenholtz 2001). However, the idea of neighbor behavior, as a property right, has been under-examined.

Traditional cultural values often tie to ideas of property values. One of the highest praises you can give someone is to call them a good neighbor (Crickard 1974). Massey Coal has capitalized on this by running a series of television ads that highlight its community projects and the company calls itself a "good neighbor." Meanwhile, the big charge leveled against it by coalfield residents is that the company is a bad neighbor, shaking their homes with blasting, ruining wells, pelting them with flyrock, and ruining roads with their coal trucks (Slavin 2002). Much of the fight over mountaintop removal mining breaks down over these mundane issues and images of home and hearth. The website of the Citizens Coal Council, another environmental group, addresses this. "Instead of being good neighbors, companies prefer to force people living near the mines to sell their homes and leave" (Citizens Coal Council 2004).

For example, the first neighbor will tell the second that he is planning to dam to creek to build a fish pond. As the creek flows past the second neighbor's house, the dam

may temporarily stop the flow of water to his property and permanently change the characteristic of the flow, to the detriment of the second neighbor. This first step of sharing information is required. If it fails to happen, community social mores come into effect – all the neighbors begin talking about the pond construction; and, if the fact emerges that the first neighbor failed to consult with the second, it will become very hard for him to get community help in building his pond. At this stage a negotiation takes place. For example, if the digging may temporarily limit well water for the second neighbor, the first should offer use of his well. This system is very flexible and may include alternative negotiated compromises, such as a right to fish in the pond.

Neighborliness also includes certain shared property rights. Generally (although the above mentioned discussion and permission is needed) neighbors gain rights to hunt on each others land – as deer and other animals do not heed property lines, which are often unmarked anyway. This right can be removed through fencing land (an expensive act) or posting (placing no hunting signs). The shared land uses are tied to the land uses exercised by the owner. It is unthinkable to poach ginseng off the land of a neighbor who harvests ginseng, but a neighbor who does not do so is expected to share their land with the local ginseng collectors. Again, this is enforced by the community – through rumor mills and public scorn or accolade. Breaking a small number of these mores is highly forgivable, but breaking a large number will earn one the reputation of a bad neighbor.

"They make monster funnels of our villages," said Carroll Smith, the top elected county official in Letcher County, Kentucky, in determining that the valleys near mining sites suffered the worst flooding in the county. "They [the mining company] haven't been a real good neighbor at all" (Clines 2002). This invocation of the right to neighborliness

is repeated in many press statements issued by people affected by the mining procedures. Sometimes, a person subjected to un-neighborly behavior feels a consequential right to adopt un-neighborly behavior. After receiving several threats for refusing to leave her home to clear a path for mine expansion, Maria Gunnoe, resident of Bobwhite, West Virginia refuses to walk through the woods near her home without a Rottweiler and a gun (Lambrecht 2004).

This neighborliness is not simply an expectation; it moves beyond that to become a property right in the Appalachian Mountains, as the people expect not only that their neighbors will be neighborly, but also that if necessary that neighborliness can be enforced. The Federal Office of Surface Mining found many mountaintop removal mines to be in violation of laws that keep rockslides from damaging neighboring property (Ward 2000), a cardinal sin against neighborliness. While, generally, Appalachians will not complain about what someone does on his or her own land, this changes when impacts such as flooding, fly-rock, and blasting vibrations spill off the land to actually damage another piece of property. "Federal surface mining law was enacted to provide social and environmental protections from the adverse effects of surface coal mining", U.S. District Judge Charles Haden wrote in his order in Bragg v. Robertson (72 F. Supp. 2d 642 (1999)), siding with the plaintiffs that the mining company had engaged in illegal activity. However, this decision was overturned at the appellate level on procedural grounds (Clines 2002).

Linking land and people

> When we came here, the creek ran and my daughter played in it. We got her a little fishing pole toy, and she liked to catch the little minnows and crawdads. That all went away when they started mining.
> Patricia Bragg (Ward 2000).

The Appalachian landscape is the material result of a large number of processes both human and natural. One process that has marked and defined it is coal mining. This social relation of production gave meaning to the landscape and created the ideology behind it. The landscape is a system of meaning, and also a system of social reproduction. It is the result of a set of struggles, political, economic, and cultural (Mitchell 2000). To view the landscape is to view one moment in a continuous and changing network of social relations (Massey 1996).

In Appalachia, environmental protest is never solely about the environment or the land. Rather, it provides a stark reminder of economic oppression and exploitation (Szakos 1993). It provides a symbolic tool that links environmental issues to the political, economic, and social. In fact, many groups protesting mining methods face the criticism that they are "environmentalists" and, thus, not really interested in Appalachia (Bowling 1999). This turn of phrase has caused local citizen groups to back away from the term "environmentalists" at various times (Martin 1999). Environmentalists have been jeered out of public forums by mining supporters (Ward 2000). A reporter was hauled out of one forum by a deputy sheriff, after engaging in a screaming match with a resident (Bowling 1999). Many groups have become careful to assert their "localness" and pay attention to issues other than the solely environmental.

Land, through community, provides a way to spatialize and regionalize identity. The idea of community has a spatial dimension (Fisher 1993). This regional identity, although often oversimplified and occasionally false, provided a political tool. It created a rhetoric and representation of identity both as "Appalachian" and as members of a smaller, local community. Expressive forms, developed from local tradition, became a

political tool in asserting this identity. Local knowledge can become a way to demand power and a role in the decision-making process (Foster 1988, 1993).

Currently, the main point of resistance in the Appalachian landscape is against mountaintop removal mining. Mountains are being removed, valleys filled, and a flat landscape created where once there were rolling hills. The issues complained about by communities near the mines are also physical – farmland destruction, flooding, landslides, denuded slopes causing erosion, and disappearing streams. Another set of issues is related to blasting, and the physical damage it causes to neighboring properties – cracked foundations, ruined wells, and flying rocks (Myers 1999). For many, the very idea of removal of mountains simply seems surprising.

> To us it seemed just common sense that the mountaintop in such a location should not be removed. Indeed, we were shocked that anyone would propose such a thing, but they did. . . . During the entire time, I could not believe that working-class folks had to organize and fight so hard to prevent what common sense would dictate to be irrational (McKinney 1999) (letter to the editor of the *Charleston Gazette*).

A new political party, the Mountain Party, formed with a platform that included, protection of air, water and land, election law reform, corporate accountability, economic fairness, small community-based public schools, universal health care, and other items (Mountain Party 2004). The party put all these ideas forth as traditional mountain values. The environmental protection part of the platform specifically targeted mountaintop removal mining with its impacts on forests and streams. In desiring corporate accountability, the Mountain Party specifically referred to the value of neighborliness, "Require corporations to pay their fair share of taxes and be responsible corporate neighbors" (Mountain Party 2004). The Mountain Party, which ran novelist Denise Giardina for governor in the 2000 election, began to have increasing presence in the state

(Miller 1999). The next election cycle saw more people join the party, and more party candidates running for office (Slavin 2002). The Mountain Party invokes the name "mountain" to represent a particular set of community values. The formation of this party fits the political ecology theme of environmental problems and external forces causing a growth of local agency and political organization (Parajuli 1998: ; Bebbington 2000). While the party has its roots in the environmental issues, it has also spread its platform over a wide populist base – such as maintaining small, local schools (Stockman 1999).

The Mountain Party drapes itself in imagery of the landscape, as other parties might drape themselves with the flag. "To me, it's the ultimate insult—watching our mountains being flattened," [Giardina] tells a crowd at a fund-raiser. "This landscape that we West Virginians feel so attached to—it's being destroyed" (Carlson 2000). The Mountain Party knew that there was no way they would win the election; their hope was to engage in a collective exercise of the individual resistance tool known as "fussin'," being so disagreeable that one must be noticed (Cable 1993). To achieve this, Giardina then went on to quote Merle Haggard (one of the champion fussers), "When you're runnin' down my country, boy, you're walkin' on the fightin' side of me.' Well, when you're flattening my mountains, boy, you're walkin' on the fightin' side of me. That's why I'm running" (Carlson 2000). By bringing visibility to a set of issues commonly hidden from sight, and through the use of landscape imagery, the Mountain Party assured that their issues would be present in the debates. However, by utilizing some of the negative stereotypical hillbilly imagery, they created a presence from which many locals pulled away, preferring to think of themselves as modern and American.

Ideas of land do not just serve one side of the argument, and are not limited to environmental arguments. Other residents love the idea of flattening the land for use in economic development, "Logan County can use all the flat land it can get" (Bowling 1999). Secretary of the Interior Bruce Babbitt also remarked about the improvement flattening does to the landscape, "The landscape has changed. It is a better landscape in many ways, a different landscape – a savanna of forests coming back, of fields" (Vollers 1999). There is no unified voice among Appalachians, even over the issue of mountaintop removal mining. One letter to the editor chided anti-mountaintop mining activists for getting upset over mere "inconveniences" in the face of great economic opportunity,

> I have been around it all my life and it has been annoying at times, but the benefits outweighed any inconveniences. People who say they have to leave their property because of mountaintop mining can stay and the mining company will recompense them for property damages. They do not want mountaintop removal because it will temporarily change their lifestyles (Silva 1999).

Protest symbology of mountains

> We're Mountaineers, not flatlanders!
> (Nye 2000) letter to the editor of the *Charleston Gazette*

It is often stated that the mountains "are central to West Virginians' identity" and that ending mountaintop removal mining is key to such platitudes as "keeping the 'mountain' in Mountain State" (Fetty 1999). Understanding the Appalachian, or any other, landscape is strongly tied to the substructure of societal values and moves to the visible manifestation of those values (Buckley 2004). Somewhere between gross environmental determinism and ridiculous New Age interpretation, mountains mean something. In Appalachia, the mountains are tied to the identity of the people, the history of oppression, and resistance to or acquiescence with that oppression.

The Ohio Valley Environmental Coalition refers to mountaintop removal mining as “mountain massacre” (OVEC Memo, undated, personal collection) and “massacre of our communities” (Stockman 1999). Portraying the mountains as human, and mining as injury is nothing new. In 1945, Frank Lausche, governor of Ohio called regular strip mining “sheer butchery, disemboweling of the land and leaving its ugly entrails exhibited to the naked eye” in a speech given at Cadiz, Ohio (Montrie 2003: 33). Ken Hechler[13], West Virginia Secretary of State, elder statesman, and the most prominent figure engaged in the fight against mountaintop removal mining, has referred to mountaintop removal as “scalping” (Vollers 1999). Perhaps this is not the best image to bring harmony with the Native American groups who have allied to the cause. However, it pulls upon the archetypical mountaineer protecting home and hearth against savages.

The protest movement has adopted the hymn, “We shall not be moved” to represent both the mountains and the communities within them. This particular hymn held two other meanings as well. First, it was part of the Civil Rights Movement, and makes clear that activist groups consider this fight part of that greater movement. Second, the song was also used by striking miners on many occasions (Couto 1993), and the use of the song established links with that movement as well. This religious iconography has been extended to the mountains, as speaker Janet Fout orated, “The mountains are a spiritual symbol, a symbol of our heritage and a symbol of our culture. For too many years they have been exploited by outsiders—people who don’t have our interests at heart. They have one thing on their mind—money We have to band together

[13] "There aren't many people in Congress today who could tie his shoes. He stood up for the thousands of workers who died of black lung or perished in terrible mining accidents." Ralph Nader on Ken Hechler (Ward 2000)

and take our government back from those who controlled it for over 125 years" (Rally for our mountains 1999). The idea and ideals of mountains are not confined to the general. Within the conflict over mountaintop removal mining, many specific mountains have taken on broad cultural meaning.

The landscape illuminates the varied and institutionalized processes that emerge in visual and material forms (Jakle and Wilson 1992). The new landscapes that we see emerging from the conflict over mountaintop removal mining, such as Blair and Kayford Mountains, are tied to the spatial aspects of politics and economics, particularly to the patterns of production and consumption (Knox 1991). These landscapes, rooted in ideas and beliefs of the past, can have their interpretation controlled through the ongoing work of power structures shaping the discourse used to explain and interpret them (Braun 2002). Through this, a concrete landscape emerges, shaped by humans both in how they use the landscape and in how they view it (Stilgoe 1997). Importantly, these landscapes, and all landscapes, do not merely exist as a canvas – even one controlled by dominant power structures. The landscapes *work* as well, creating change as they are changed (Mitchell 2001). These landscapes are complex and changing. They are not an equilibrating system, but one marked by constant flux and shaped by the socio-environmental feedback loops that operate throughout the system (Zimmerer 2000).

These conflicts over landscape, identity, and the economy have played out at a set of particular places in mountaintop removal mining. Each place invokes the mountains, their history, and the Appalachian identity in different ways. Currently, Appalachian Voices, an anti-mountaintop removal activist group is running a campaign that features a Google Earth presentation through their website "ILoveMountains.org." This internet

protest, entitled "Memorial for the Mountains" features a broad view of the mining region, with each mountain being mined represented by an American flag flying at half staff. Selecting the flag brings one to a before-and-after satellite photograph of the mountain, linked to history and stories about the individual mountain. Through this symbology, mountains become individualized as a way to bring a large issue into personal focus.

Two particular mountains—Blair and Kayford – have taken on discursive and symbolic significance in different ways. Both of these mountains are currently sites of active mountaintop removal mines and active resistance to that method of mining. Blair Mountain evokes the past with its labor history, tied to violence and conflict, as well as group action in defining landscape and place. Kayford Mountain illuminates the more individual parts of these struggles, and highlights the sets of individual property rights and the ways they come into conflict. Together, they illustrate the shaping of property, land, and society discussed in this chapter.

Blair Mountain

Blair Mountain is the most famous site of mountaintop removal mining. It was the site of the West Virginia Mine Wars of 1920-21 over unionization of the coalfields. In August 1921, 10,000[14] striking miners fought a five-day battle there against sheriff's deputies, mine guards, and Pinkerton agents until the U.S. Army and Air Corps showed up to drive the miners home (Corbin 1981: ; Savage 1990). As such, it holds symbolic importance in mining and labor history and several groups are working to have it designated as a national or state monument.

[14] Numerical estimates vary – the low is 7,000, the high is 15,000; I went with the standardly used mid-range estimate.

The fight to stop mining on this mountain has adopted this symbolism. Activists refer to is as "The Second Battle of Blair Mountain" (Ward 1999). Evoking the past provides another powerful tool, as memories of past trials and successes create a space for action and strengthen resolve (Couto 1993). Meanwhile, at the same site, the president of the Logan County Commission declared his intentions to protect mining interests and economic development by declaring "It's a war!" in open council session (Vollers 1999). The visuals invoked by these actions call on the imagery of the wild mountaineer bravely fighting for independence and the solid miner seeking justice from the coal companies – both Appalachian archetypes. People invoke the image of Sid Hatfield, the sheriff who led the miners during the original Battle of Blair Mountain in 1921, drawing a connection between his fight against the "forces of evil" and the "new sheriff" Judge Haden, who ruled against the coal companies (Toler 1999). Secretary of State (and anti-mountaintop removal mining activist) Ken Hechler placed this war as directly against the mountains, as opposed to mining interests, "Like all wars, a war against the mountains creates employment, but you don't keep fighting just to supply jobs" (Vollers 1999). A West Virginia archeologist (who requested anonymity), spoke of his research at the Blair site, stating, "In our state, you don't raise your head out of your foxhole, or you get it shot off" (Ayers 2000). The fight to stop mining Blair Mountain adopted the language and imagery of the earlier fight to unionize the mines in the region.

In 1999, the battle imagery came to a head when Ken Hechler led a reenactment of the march that preceded the Battle of Blair Mountain up the hillside, as shown in Figure 4.1. His group was intercepted by a group of coalminers who believed that the march as a protest against mining and attacked the marchers. Four of the miners were

charged with assault and property damage and state ethics charges were raised against the group's leader (Schnaars 2000).

Figure 4.1: The commemorative march on Blair Mountain on the anniversary of the 1921 Battle of Blair Mountain
Source: (Hufford 1999)

The town of Blair sits in the center of Arch Coal's 3,200-acre mine site. The company is buying and tearing down houses in the community to enable mining there, shrinking the community from 300 houses to under 60. One hundred houses have burned; and, while the state Fire Marshall has been unable to determine a cause, most residents believe it is the coal company (Parsons 1998). (Burning houses is not new, but rather an established method of coal companies to quell resistance (Allen 1993)). The

remaining residents have brought a law suit against Arch Coal over dust, blasting, and the attempts to remove them from their homes (Forman 1999).

Kayford Mountain

> The mountain is gone. Down below, there's a flat expanse of dirt and rock that stretches to the horizon. Off in the distance, a truck creeps across the site, loaded with rock. It's a huge earthmover, but from up here, it looks as tiny as a Tonka toy. It took only a few dozen workers to blow off the top of Kayford Mountain and haul off its coal
> (Carlson 2000).

Kayford Mountain, West Virginia has been another particular site of resistance, largely because of the work of one activist, Larry Gibson, to whose family the property has long belonged—but not the rights to the coal. One of the largest mountaintop removal operations is happening there. "Over the last few years, mountaintop removal has caused more damage around Kayford Mountain than a huge natural disaster," said Larry Gibson. The family cemetery sitting on one of the few un-mined parts of the mountain served as the site of a kick-off party for an activist group's walk 490 miles across the state to raise money and awareness. This walk was paired with a symbolic mountaintop removal cemetery that would travel with it at rallies across the state. The graveyard held 900 cardboard tombstones, each representing a stream that has already been buried by the mining method (Holiday weekend Kayford Mountain event to kick off "Walk for the Mountains" 1999).

Gibson's story is typical. In 1906, 426 acres of the Gibson family land was condemned by a politician and given to a land company for coal development. Later that year, the mineral rights on the remaining 76 acres were sold at 50 cents per acre. Today, Gibson is one of 500 heirs sharing ownership of 50 acres (including a family cemetery) in the center of 187,000 acres owned by Massey Coal. The heirs formed a foundation to

attempt to place environmental protection on their remaining land in 1992. In 1993, Massey offered them $150,000 for the land, while claiming the coal was worth $1 million per acre. Gibson's statement on the issue was, "We're just ignorant hillbillies", and declined the offer. Today, the Gibson land sits surrounded by a massive mine (Parsons 1998). The Princess Beverly mine, operated by Lodestar Energy, a subsidiary of Massey was permitted for 16 fills covering 14.5 miles of streams (Ward 2000). Family reunions become anti-mountaintop removal mining protests, as shown in Figure 4.2.

Figure 4.2: Table of bumper stickers and t-shirts either protesting mountaintop removal or proclaiming Stanley Family heritage
Source: (Eiler 1996)

"Homeplace" is a long-standing concept in Appalachian identity, linked to the idea of the nearly sacred status of private property combined with reverence for family (Crickard 1974). Gibson stated, "If we sell, we sell our heritage. We have no past after that. Where can we show our family where their roots are?" (Vollers 1999). The tie to homeplace is illustrated by the burial patterns of the migrant workers of the Appalachian diaspora, where most of the time if a worker dies while away from home, the body is brought back to the home area for burial (Simpkins 1974). The photo in Figure 4.3 was taken from the Stanley Family Cemetery, one of the few parts of the family land that remains un-mined.

Figure 4.3: Views of the Samples Mine and surrounding area from the Stanley Family cemetery.
Source: (Hufford 1998)

The United Mine Workers have called for a halt of mining in this historic portions of both Kayford Mountain and Blair Mountain (Roberts 1998). While their stand on the Blair Mountain site is certainly linked to its history in formation of the union in Appalachia, the Kayford Mountain site is a different story. Massey Energy, which owns the site, is notoriously anti-union, and this move is believed to be part of their ongoing unionization drive (Slavin 2002). Massey has long been one of the least popular mining companies in the area, largely because of its long anti-union position (Couto 1993).

Massey is not the only operator on Kayford Mountain. In 2000, Arch Coal subsidiary Caternary Coal Company applied for a permit to open another complex of mines on Kayford Mountain, this site covering 1,400 acres. Caternary is a major operator and has stripped 10,000 acres near the head of Cabin Creek, West Virginia, in addition to the 6,300 acres on Kayford Mountain. This particular piece of property, the Samples Mine, was sold to Caternary by another coal operator for $45 million. Arch has a preexisting mine operating in the area, permitted at 2,780 acres that produced 6 million tons of coal a year, between 1997 and 1999. By most accounts this is a “good” mine, which has won awards for the reclamation work performed after mining finished. However, as part of this process, the operation buried 9.5 miles of stream and created 15 valley fills (Ward 2000), and removed the ties of more than one family to the property they called home.

Figure 4.4: Aerial view of Catenary Coal's Samples Mine, a Mountaintop Removal project at the head of Cabin Creek
Source: (Eiler 1995)

Conclusion

> I, like many people raised near the Appalachians, was not so aware that we had such problems until someone informed me. . . . I still think of the mountains as a corner of heaven first and a national disgrace second. (Stephenson 1968)

If the Appalachian landscape is strange and if the people are peculiar, it is because they have been constructed as such by both internal and external forces. In reality, they are much the same as the world that surrounds them, but this peculiarity allows them to be made different and set apart, enabling a separation that allows "us" to see the problems as "not ours." The cultural construction of the people as the "other white Protestant" allowed the rest of America to distance themselves from parts of human nature that provoked discomfort. The problems of the region were tied to place and the physical

characteristics of the land; likewise, it is this landscape that was blamed for the way that the Appalachian people behaved. After all, the people are just "hillbillies." In turn, this makes destruction of place acceptable, even desirable, as a way of curing the problems inherent in the people.

When viewed internally, land and the environment still form important parts of local identity. In order to understand the Appalachian relation to mining, it is necessary to understand the relation to the land, especially as mediated through the ideas of property. Private property has taken on a near-mythic status to Appalachian people. It is this very construction that has caused great harm. The reverence for private property, which is meant to protect home and family, becomes applied to all private property, most notably the mining property that is causing damage to homes and families. When combined with the patterns of accumulation discussed in Chapter 3, this has led to a privileging of extractive property and a consequent devaluation of other forms of private property. Local property beliefs have both enabled and enhanced the destruction of Appalachian property.

Land is more than simple property. These issues of land, property, mining, and community are economic, political, and cultural at their core, creating a direct set of changes on the landscape. Mountains are being removed, valleys filled, and a flat landscape created where once there were rolling hills. The issues complained about by communities near the mines are also physical—farmland destruction, flooding, landslides, denuded slopes causing erosion, and disappearing streams. Another set of issues is related to blasting, and the physical damage it causes to neighboring

properties—cracked foundations, ruined wells, and flying rocks. Land provides one material interface between Appalachian culture, the natural world, and the act of mining.

CHAPTER 5

"APPALACHIANS NEED GOD": RELIGION, CULTURE, AND LANDSCAPE

> "There are few Appalachian atheists because Appalachians need God" (Jones 1994).

The mountainous landscape of Appalachia is inherently entwined with understandings of Appalachian culture. In turn, this creates a linking of cultural understandings of Appalachians with Appalachian understandings of property rights. While legal forms of property regulation create and constitute a great part of the formal institutional structure of property rights, other institutions both formal and informal play a strong role both by themselves and in influencing the legal forms. These social forms of property emerge, often in stark contrast to the forms of the dominant American society because external society highlighted the ways Appalachians were different by othering the Appalachian as the other white Protestant. Many cultural forces played roles in creating understandings of property rights, with landscape and religion among the most effective.

In his essay "Appalachian Values", Loyal Jones defines a set of cultural characteristics of Appalachians: religion, individualism, neighborliness, family solidarity, personalism, love of place, modesty and being one's self, sense of beauty, sense of humor, and patriotism (Jones 1994). Jones developed these images to counteract the prevailing "culture of poverty" view of Appalachians constructed by Jack Weller, the

characteristics of which include: individualism, traditionalism, fatalism, seekers of actions, psychology of fear, and person orientation (Weller 1965). Both men constructed similar visions, but to different purposes. Weller aimed at explaining the region's lagging economy, while Jones' response aimed at showing how much more the region offered than simply its poverty and lack of development. Each of these paradigms was constructed as a package, in which the characteristics, taken together, define the Appalachian person as something different from the American person. However, this cultural distinction is fading, as even people living in the most remote back "holler" have access to television, magazines, and other media transmitting contemporary culture. The unification of Appalachian and American cultures is rapidly approaching.

Appalachian life often does not live up to the American promise, particularly the promise of security in one's private property. The American property promise goes something like this. If you work hard and save up your money, you can buy a home. Once you finish making thirty years of mortgage payments to the bank, that home is yours with which to do whatever you want. Ideally, the value of this home will rise, allowing you to pay for retirement or educate your children; however, if it does not, it will at least retain value and give you a secure place to live in your old age. This dream, and the role of property within it, are tied to the Protestant work ethic and intertwined with a series of religious ideals (Weber 1958). However, just as identity and property developed in slightly different forms in Appalachia than in America as a whole, religion also developed along a slightly different path.

This chapter traces the development and beliefs of the particular forms of Appalachian fundamentalist Protestantism as they relate to the ideals and institutions of

property. These beliefs have powerful purchase and material effects because the treatment of property entwines with treatment of the environment. The Judeo-Christian tradition shapes definitions of nature, land, and the place of humans in it (Egri 1999). In West Virginia, folk religion has a fundamentalist bias that often works in an anti-environmental manner (Foster 1988). In order to understand these workings, this chapter will explore some of the tensions created through the religious construction of land and property in Appalachia.

The first core tension created by Appalachian religious beliefs is that between a rampant individualism and a strong respect for authority. This tension pairs with a second core tension based upon the tangible and literal understandings of the hereafter, which can lead to both a shunning of wealth and property as overly worldly, and also a respect for the creation of wealth as a tangible symbol of God's favor. These tensions created both respect for and ambivalence about private property—creating a gap into which outside control of land and resources could easily step.

Individualism and suspicion of the external

> *par in parem non habet imperium*
> an equal has no authority over an equal
> Legal Maxim

The Protestant form of Appalachian religious beliefs runs parallel to the religious beliefs within the dominant American society, creating an axis of similarity between the Appalachian people and those within greater America. However, Appalachian Protestantism is not mainstream Protestantism, although it often appears as such. Most Appalachian churches are independent churches, although one cannot rely on the names of the churches alone to see that. While the hills are liberally sprinkled with

congregations who refer to themselves as Baptists, these Baptists break down into a variety of groups: Old Regular Baptist, Regular Baptist, United Baptist, Missionary Baptist, Primitive Baptist, Free Will Baptist, and the list goes on—none of which are tied to either the Southern Baptist Convention or the American Baptist Churches. Each of these individual Baptist churches is its own authority, in matters both spiritual and temporal, with no regional or national body under traditional Baptist organization (Weller 1965). Of the churches that have their origins within the region, the Church of God from Tennessee has the largest national presence, but, in this denomination, each church is fully independent from the larger organization by design. It is the independent, nondenominational church that is the center of mountain life, whatever name is goes under (McCauley 1991). These churches use a variety of names and loose, ideological affiliations: Holiness, Pentecostal, Apostolic, and such, but many simply take their names from the community in which they are rooted. Further, they eschew any sense of ties to a larger ideology other than that taken directly from God and the Bible.

Ministers in these churches are frequently bi-vocational. Their service to the church is a calling, and they receive no (or very little) monetary compensation for it. "Paid or salaried preachers were an anathema to the early Baptists, because a salary represented both a tendency toward an ecclesiastical structure contrary to the early church practices and an unhealthy independence on the part of the pastor" (Dunn 1988: 106). Rather, the ministers hold outside jobs to support themselves, their families, and often the church itself (Weller 1965). This allowed both churches and ministers a degree of independence tied to the strong individualism of the region. The individualism prominent in Appalachian religion has leveling tendencies, not placing preachers or any

other person above others because of their title or status (Weller 1965). Preachers are often raised from within the congregation, and can change whenever the congregation (or the preacher) feels it necessary. Each church is fully under local and congregational control. Figure 5.1 shows one local congregation preparing to engage in the ritual of baptism in the river.

Figure 5.1: Arnett Chapel congregation singing "Shall We Gather at the River"
Source: (Eiler 1996)

The roots of this independence trace back to Colonial America, where a crisis arose over who should have the rights to name Anglican bishops in the colonies. The Anglican Church claimed that right as the parent and home church, but American congregations resisted this as external control of matters that belonged to the local

congregations (Dunn 1988). Many of the dissenters, chafing at centralized control of religion, are the same people who moved into the Appalachian western frontier, chafing at other sorts of centralized control as well (Eller 1987). Thus, many living within the Appalachian region were uneasy in dealing with the mainstream churches, as ceding too much control over the most personal parts of their lives to external sources. The two mainstream churches, Methodist and Baptist, that have a sizeable presence in the region trace their roots from circuit riders, local men ordained as ministers and set to circulate around the region from one small congregation to another. This arrangement allowed for a sense of individualization and local control.

Oscar Lewis saw this individualism as one of the defining characteristics of a general "culture of poverty", which inhibited people from entering the American mainstream and gaining economic upward mobility. While the "culture of poverty" argument has been proven faulty and overly simplistic (Billings 1974), Lewis' descriptions of the life patterns of the region, taken apart from the argument he made about them, do hold true. "The people do not belong to labor unions or political parties and make little use of banks, hospitals, department stores or museums" (Lewis 1996). Appalachians saw all these institutions as political, and many Appalachians developed an intense aversion to mixing their religion and their politics. While many people strongly opposed drinking for religious reasons, they also opposed Temperance societies and refused to join because the societies were viewed as too political and an improper movement of religious beliefs into the political world. The push away from mixing politics and religion was also fueled by a backlash against the waves of missionary groups flowing into the area. Some organizations, such as the Primitive Baptists, took on

an explicitly anti-missionary stance, relying instead of ideas of predestination and election in order to negate the possibility that one person could be "saved" by another (Sovine 1986). This separation of church and politics has lasting effects. While many of the externally focused settlement schools morphed into more locally focused mountain schools by the 1960s and 70s and used local people and local needs to develop agendas (Stokely 1975), these institutions are still frequently treated with suspicion as being "too political."

This separation enabled many parts of the domination of the landscape by coal interests. Any organization against injustice or against mining operations more particularly is shunned as "political" (Jones 1999). Ministers in the coal camps during the early 20th century, strictly restricted their sermons to the holy and eternal, avoiding any references to the major secular political changes that were taking place in the region, such as unionization (Corbin 1981). This anti-political stance also called many people to reject the social gospel movement, and many churches refused to involve themselves with worldly action that would improve the lives of their congregations (Jones 1999). Today, many churches have organized in protection of environmental issues and, in the region, specifically against mountaintop removal mining. These programs range from the Evangelical "Creation Care" (Moyers 2006: ; Radin 2006) to the more mainstream work by the Methodists, Lutherans, Episcopals, Presbyterians, Unitarians, and the Catholic Committee for Appalachia (Abernethy 2007: ; Evangelical Lutheran Church in America, Episcopal Church et al. 1999). However, few traditional Appalachian congregations have joined these efforts.

Rather than political, this relationship with God is personal, and intensely individual. Based on a belief in God's love, the Appalachian is able to build both a sense of independence and the ability to withstand hardship (Maurer 1974). As religion is individual, so is responsibility and, while help may be received from friends and neighbors, it is the individual who is responsible for his or her own place in life and dealing with hardship, as responsibility cannot vest into any political authority. This type of individualism does not necessarily translate to inaction. Self-help ideas exist strongly beside ideas of family and community interdependence (Dunn 1988). But, it does cast any resistance to political structures into an individual mold (Cable 1993), as one way to create distance between politics and religious beliefs.

Respect for authority: the counterpoint

> True law is right reason, consonant with nature, diffused among all men, constant, eternal. … but one law and that eternal and immutable shall embrace all peoples and for all time and there shall be as it were one common master and ruler, the god of all, the author and judge and proposer of this law.
>
> Cicero, De republica

While the people may be individualistic, religion created a strong view of God as the ultimate authority figure to be respected. In turn, this respect for one kind of authority was able to be transferred to a strong respect for other types of authority. One transfer of some worldly authority over to coal companies was achieved through the institution of the coal camp church (Buckley 2004: ; Weller 1965). Most miners lived in communities built and owned entirely by the coal companies (in order to locate labor close to the mines). These coal towns provided the necessities of life to a work force placed in a remote area, but in exchange gave the company that created and ran the town

a strong degree of control over all aspects of life—from the color houses could be painted to what goods would be made available at the company store.

The coal company owned the community church house; the minister was a coal company employee; and the message belonged to the company as well. The minister was often instructed to combine God's message with the company's message of respect for private property and the authority of the company. The minister worked at the sufferance of the company that hired him, and was often guided in which topics were deemed appropriate for dissemination to the flock. The company preachers were instructed to avoid discussion of social and economic problems, focusing instead on the eternal. Often congregations found this arrangement to be correct, because it fit within their existing beliefs of the separation of the religious from the political. Still, the preacher had to walk a careful line, because if he pushed too far in one direction he would lose his position and paycheck, but if he appeared to boost the company's positions too much, his congregation might rebel at seeing their localized control slip away (Corbin 1981). In this way, religion can become a form of social control, as it forms the mediating point between the individual and society (Genovese 1974). While many Appalachian churches, particularly the Baptist church, determinedly worked to separate the church and its operations completely from civil government, religious and church disputes did cross over into political disputes (Dunn 1988).

The combination of individualism and respect for authority create one of the defining tensions in Appalachian religion. One way that this is resolved is through the theological doctrine of grace, as interpreted by traditional Appalachian churches. Grace is, in short, the salvation of God. In mainstream religion, grace is offered by God, but it

is up to human action to accept it, making a human-centric view of the process. However, in the Appalachian view, grace is entirely God-centered, flowing from God into the worshipping people, often in such a strong manner that is must emerge in a vocal or expressive form, which may lead to experiential religious practices such as ecstatic dancing or speaking in tongues. Grace is non-rational and cannot be understood or rationalized (McCauley 1991). Religious control is completely ceded to God, creating a strong sense of humility (as illustrated in such practices as foot washing) and greater willingness for the individual to cede control in other areas. "These beliefs, and variations on them, have sustained us, have given our lives meaning, and have helped us to rationalize our lack of material success. Every group of people must have meaning in their lives, have to believe in themselves. Religion helps people to make this belief possible" (Jones 1994).

Religious construction of landscape and property

> I've roamed and rambled and I've followed my footsteps
> To the sparkling sands of her diamond deserts
> And all around me a voice was sounding
> This land was made for you and me
>
> Woody Guthrie, "This land is your land" (1956)

Religion is one force that shapes the way that the landscape becomes part of the identity of local residents. In the Appalachian region, the mountains are always in view and horizons are close, which visually make the world appear to be very small. At those horizons sit mountains, a constant reminder that one is surrounded by things larger, stronger, and more permanent than oneself. Often this found expression in the fundamentalist and stoic religious practices of the mountains. One dominant theme in religious belief in the region is that life on earth is designed to be hard and fleeting. One

must accept all sorts of problems today, because the reward will be a tangible place in the kingdom of heaven. Indeed, the promise of Heaven, as a tangible place to be reached one day, guides many through the difficulties of this life (Kaplan 1971). This lies at the root of the "otherworldly attitude" that pervades Appalachian society (Miller 1984).

These religious beliefs played a large role in allowing the primitive accumulation of the mineral rights away from the Appalachian people. What one has on this material plane pales in importance to what one will have after this life is over. Additionally, as human life on earth was constructed as fleeting, the sale of the ability to extract coal at some undetermined future time was seen as unlikely to affect people today or their futures, as that lay in the kingdom of heaven. Meanwhile**,** the Appalachian people are closely identified with the earth and the natural world (Miller 1984). When the people are disconnected from their physical environment, trouble is often the result (Lang 1992). This comes into tension with the otherworldliness of traditional Appalachian religious beliefs, creating a set of tangible and material religious ideas, where heaven is more real than this earth.

"In my father's house are many mansions"

> *Domus sua cuique est tutissimum refugium*
> a man's house is his castle
> Legal Maxim

The fundamentalist characteristic of Appalachian religion emerges from a literalist reading of the Bible, which says much about place, both material and eternal. While the Bible gives some guidance for the understandings of life, death, and afterlife, the details are often illustrated in song. Some of these songs used to illustrate this material character of the afterlife are written by Appalachians and others are not, but they

all circulated through the Appalachian region, forming an integral part of worship for the churches there.

A common belief is that life on earth is ephemeral and unpleasant, and rewards are in heaven, not here (Weller 1965). The world is a testing place for faith, and heaven is, in that sense, a political outcome, the reward for following the correct path (Corbin 1981). "The world's fierce winds are blowing, Temptations sharp and keen," (Pickett 1897). These hardships are to be expected and to be endured rather than enjoyed. "This world is not my home, I'm just a-passing thru, My reassures are laid up somewhere beyond the blue. . . . And I can't feel at home in this world anymore" (Brumley 1965). The difficulties of this world can be endured because eternal life awaits for the saved in heaven. "When our work here is done and the life-crown is won" (Moore 1914). This heaven is simultaneously unknowable and a material, tangible place with very real physical characteristics, "I have heard of a land on the far away strand, 'Tis a beautiful home of the soul; Built by Jesus on high, there we never shall die, 'Tis a land where we never grow old,"(Moore 1914).

This place is much like earth, except better in every way. It lays in a valley, which is a uniquely Appalachian construction, coming from a landscape where good land sits in valleys, "We are going down the valley, . . . Going toward the setting of the sun," (Pounds 1890). The weather is always nice. "O they tell me of a home far beyond the skies, O they tell me of a home far away, O they tell me of a home where no storm clouds rise, O they tell me of an unclouded day," (Alwood 1880). Even work is joyous there, "We shall come rejoicing, bringing in the sheaves," (Shaw 1874).

In contrast to the rural characteristic of Appalachian life, once heaven is reached, it appears as the City of God, "There's a holy and beautiful city, Whose builder and ruler is God, . . . Its high, massive wall is of jasper, The city itself is pure gold," (Ingler 1902). Of course, the gates are pearly white, or perhaps literally made of pearls, "Soon the pearly gates will open, We shall tread the streets of gold," (Hewitt 1898). These ideas of the City of God are imported from elsewhere, but take on additional sets of meaning in a rural area, where many people have not seen a city and have no point of comparison. Some of these characteristics are taken directly from the biblical verses, "Then I came to place in that city, Where mansions are grand to behold," (Brumley 1936). In this earthly life, one could only make due with one's place in the world, and accept this place in the position of heavenly wealth to come, "That little, old hut was a mansion to me," (Bartlett 1947).

Through this, it makes no sense to covet earthly wealth and possessions, "When you look at others with their lands and gold, Think that Christ has promised you his wealth untold; Count your many blessings, money cannot buy, Your reward in heaven, nor your home on high," (Oatman 1897). The place of this heaven is somewhat disputed, while its characteristics are not. One common belief is that after the time of judgment, heaven will literally be here on earth (Mosely 1973). Other beliefs define and describe the physical heaven based upon earthly experiences, making it just like home, only better (Miller 1984). Whichever description one believes, the result is a devaluation of the earthly through constructing it as ephemeral. Thus, if land itself is ephemeral, land use is even more so.

Calvinism, property, and the Protestant work ethic

The Calvinist roots of mountain religion tie strongly to the development of a cult of private property. Most notable in their ties to the Calvinist tradition are today's Holiness and Pentecostal groups (McCauley 1991). However, it is the Primitive Baptists who show the strictest interpretations of both predestination and election (Sovine 1986). Calvinism preaches the doctrine of predestination, where God has eternal knowledge of all things, and election in which this knowledge determines which people will go to heaven and which to hell (Jones 1999). As humans tried to be part of the elect few, they also tried to find ways to determine if they were on the list. One common set of reasoning went that those with the strongest beliefs in God were the favored elect who would get into heaven, and as such were favored by God both now and in the eternity. The visible mark of God's favoring was the ownership of wealth, most particularly in the form of private property. Hence, the development of the Protestant work ethic (Weber 1958). Those holding private property (often coal operators in the region) were therefore the favored of God, and were to be respected.

In this manner, the ownership of private property, even vast amounts of it, was removed from the sphere of resistance, as it is incredibly difficult to oppose something that shows God's favor. Instead, ownership of property became the goal to which most people aspired, and people favored laws and policies that solidified ownership rights, which they hoped one day to hold, rather than policies that would enhance their current quality of life, which was fleeting anyway. As a complementary pattern, this created a ready land market for land which had already been harmed by mining, and land without mineral rights and thus without future security, as these were the types of private property most affordable by the working classes.

Meanwhile, the pull of the afterlife is supplemented by a "distaste for things of this world" for believers in traditional Appalachian religion (Kaplan 1971: 108). In fact, the worse that life gets and the lower one falls in socio-economic status, the more emphasis tends to be placed on the hereafter as a real place with mansions and streets of gold, where believers will achieve the socio-economic status denied them in the temporal world (Kaplan 1971). Additionally, Satan is alive in this world, and too great of a focus on the worldly may lead to damnation (Jones 1999). One Appalachian church member, interviewed on the subject of religion, stated, "The preacher has the word of God in his mouth. He tells us that others may have fancy clothes and cars, but we have the joy of Heaven. We have the real salvation" (Kaplan 1971: 116). Hence, property becomes not simply irrelevant, but can be a sign that one does not the right type of priorities, as the meek will inherit the earth. For some, this becomes an inversion of the Protestant work ethic, creating the view that the have-nots are more favored by God than the haves are. Property ownership by the wealthy and the lack of property for the poor, thus both become supported by the same doctrines applied in different manners.

Conclusion

יקוב הדין את ההר

Let the judgment pierce the mountain [Sanh. 6a, b]

What may not be protected as private property, however, may be protected as church property. To the Appalachian, the church is never a building—instead the church is the people who take up temporary residence during their earthly sojourn in a particular building, the church house, only referred to as a church in representing the people who go there. While not holy, this building is a cherished place, "No spot is so dear to my childhood as the little brown church in the vale" (Pitts 1857). Disturbing these buildings,

or letting them fall into disrepair, upsets the people of the church—or people of other churches, as it shows the greatest level of disrespect (McCauley 1991).

Today, old church houses like Delbert Chapel in Figure 5.1, along with their graveyards, are under threat from the expansion of mountaintop removal mines. By law, these sites cannot be mined and are protected by a one-hundred foot buffer zone. Other community buildings, such as schools, are also seen as deserving protection for reasons that can be separated from politics. Today, mountaintop removal mining is beginning to encroach on some community structures (Reece 2006). In these particular pieces of property, sit several of the internal contradictions of traditional Appalachian religion. Whether church action is taken to preserve them, and what forms that action may take, will certainly bring some of the background tensions and conflicts within Appalachian religion to a head. "God created these mountains," ex-miner Larry Gibson muttered, "Only God should be able to take them away" (Warrick 1998). Until recently, the cemetery where Gibson's family is buried sat surrounded by the Princess Beverly Mine—a raised island, the last bit of level ground in a sea of scraped earth. In July, 2007, mining bulldozers rolled through the cemetery—destroying several graves and knocking over tombstones (Bady 2007).

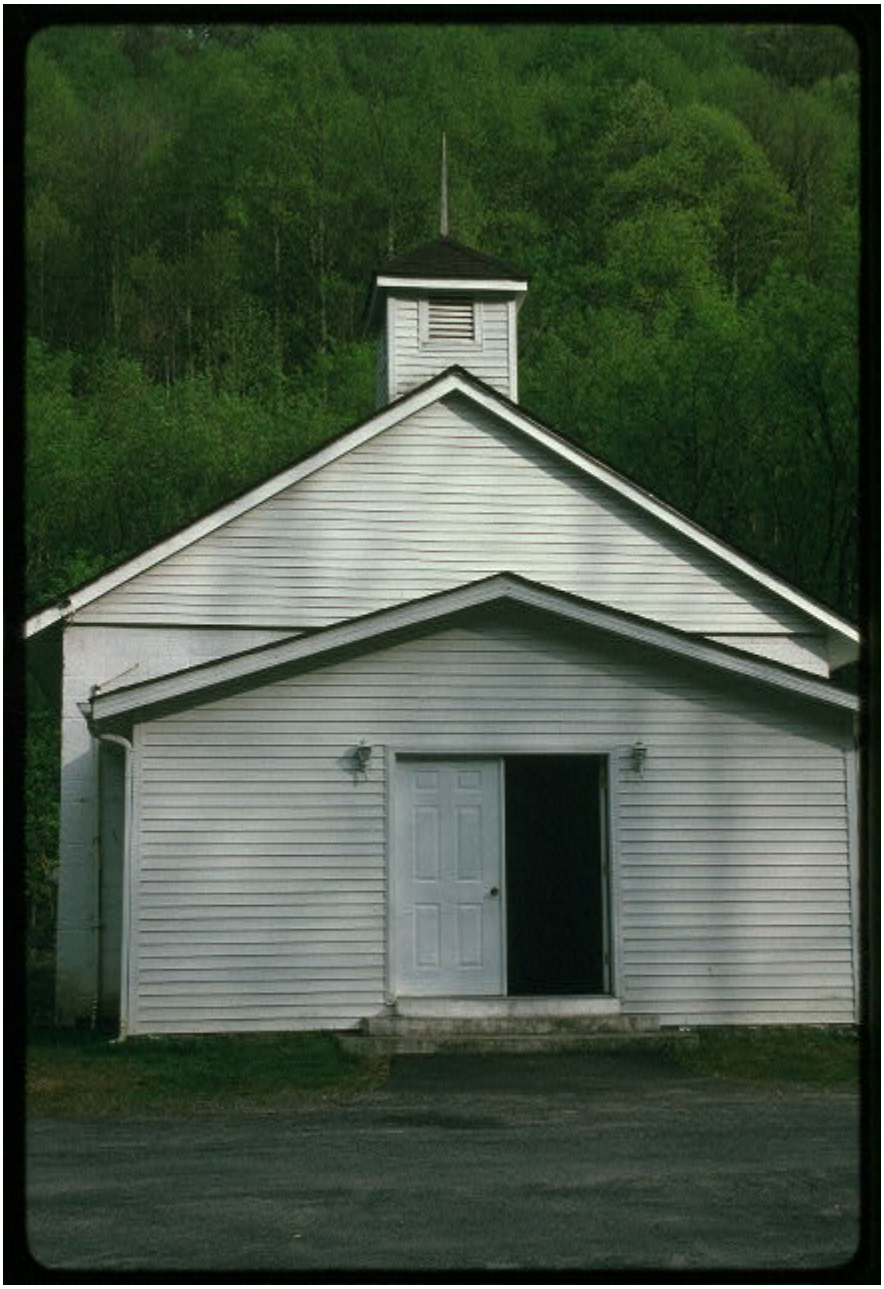

Figure 5.2: The Delbert Chapel across from the Ramp House at the head of Drews Creek
Source: (Eiler 1995)

CHAPTER 6

LAW AND DISORDER: PROPERTY LAW AS A "MASSIVE EFFORT IN IMPROVISATION" [15]

> The course in Property has become a massive effort at improvisation, rather than a convincing demonstration of the Langdellian's faith in the ultimate unity of legal tradition, case analysis, and professional relevance (Ackerman 1975: ix).

Property law is our main institutional interface with the environment (or at least the terrestrial environment). Law certainly does not summarize the entirety of property relations and many property relations fall completely beyond the scope of law (Razzaz 1993), but law does provide one key point in the linkage of humans to land. The law reflects social agreement on values, making entitlements to property a social decision and granting society's wishes enforceability through a variety of legal mechanisms (Calabresi and Melamed 1972). We come into daily contact with land in multiple ways, many of which are mediated through the institutions of the law. Property law establishes the rules of that contact—how we own the environment, how we act towards it, and our rights and duties in regards to it. It sets the borders between what is a private right or domain, and what are the legitimate interests of the public at large (Freyfogle 2003). Law forms a key part of the social contract and represents the codification of our collective ideas and preferences. It is a changeable institution, but one that resists quick change, and this

[15] (Ackerman 1975: ix)

gives the law a permanence (or at least a feeling of permanence) that few other institutions can achieve.

Both law and conceptualizations of property are highly complex and in a constant state of flux and change. However, both are endowed in our social understandings as having a permanence, which masks and distorts the changing characteristics of both law and property. Property and law are parts of a large interactive feedback loop linking society, environment, economy, politics, and space in a constantly changing process in which each part is actively shaping all other parts, while simultaneously being shaped in a complex co-construction. Law provides a place where we can begin to see how environment and society are continuously making each other.

Within the law, multiple types of disorder emerge to surround any situation. Within property law, this chapter will illustrate four types of disorder—spatial, temporal, regulatory, and procedural. Spatial disorder draws not only upon the ways humans organize space through concepts like legal jurisdiction, but also upon the inherent differences between pieces of property, where each has unique environmental and physical characteristics. Temporal disorder emerges, both rooted in core uncertainties in understanding technical ecologic or regulatory details, and in the speed of changes that often lurch forward at uneven but rapidly increasing speeds. Additionally, there are disorderly characteristics that are unique to the systems of human institutions—in this case the institutions of the law. Institutional disorder can be divided into regulatory disorder and procedural disorder. Regulatory disorder occurs through the layering of laws, regulations, agencies, and other groups with responsibility for overseeing the situation of resource extraction. The number of overseeing groups is multiplying, and

their directives are becoming increasingly different from each other, and often incompatible with each other. Additionally, institutional procedures give birth to another kind of disorder. Procedural disorder within the law ties to the development of legal systems over time, where periods of rifts and unifications happen between systems such as law and equity, or common and statutory law. Even if the content of the law were very straightforward, the procedures have become so complex that they, in themselves, can cause material results. Understanding the origins and types of the particular forms of complexity and disorder that emerge is important, because this specificity is necessary to design reactions and responses within human systems. The systems, both social and natural, are complex, fracturing, and messy—and these characteristics open multiple places where action can be taken to create positive change. Knowing the particular forms of order that appear in these systems, allows people to create solutions with maximum potential impact.

This chapter examines the interconnectedness of property through use of the institution of property law to illustrate the interconnections of the nature and society. These interconnections are multiple, complex, and inherently disorderly. This disorder spreads outward through the ideas and functions of not only property in the legal system, but also the law itself. This disorder, in turn, also has material effects on the land and society, through creation of interactive feedback systems. These disorderly systems benefit some and disadvantage others. This chapter will examine a small number of the ways that property law overlaps with mountaintop removal mining to illustrate these complex, fracturing, and disorderly processes. Mountaintop removal coal mining renders the invisible visible, allowing us insight into these feedback loops and co-constructions.

Examination of the actual workings of property illustrate the physical and representational processes of which property is constituted (Blomley 1998). The physical process of mining pulls the forces of environmental change forward out of a mess of ideas, texts, and codes and renders those ideas into a drastic set of physical changes in the landscape and in the lives of those people who make their homes in those places. Mining is a material result of law on the landscape and illustrates these complex and changing natures of property law. The law is a material result of mining on our society as it changes with changing needs, wants, and understandings of landscape and environment. Mining makes the law apparent, as the law makes mining apparent—parts of a complex socio-environmental system.

Figure 6.1: Sign: "Haulers have right of way"
Source: (Hufford 1997)

To do this, first the chapter summarizes the study of law within geography and a set of major theories dealing with how the law studies itself. Next, the chapter begins to look at disorder and complexity in the law through reviewing scholarship that ties both law and property to violence, which highlights problems with conceptualizing law as order. It then moves to the problems caused by this disorder, and the embodiment of disorder, in the regulatory process surrounding mining. Following that, it steps through legal procedures that enhance these disorderly tendencies: the scales of jurisdiction, the spatial quality of landownership, and the uneven nature of legal application. Finally, it addresses environmental law as the public balance to private property law, and a legal layer that adds even greater complexity. It focuses on the Environmental Impact Statement, the process of federal study meant to examine complex environmental issues in order to inform creation of law, and shows how even legal procedures designed to deal with disorder and complexity are no longer able to do so.

Through this, I argue that property law has been built into this complexity and disorder, and that this disorder has material effects on landscape and community. The result of a disorderly property law is twofold. First, those who are best equipped to deal with this disorder have an advantage and are able to shape the law to benefit them. Second, this disorder drives environmental and social change at faster paces than would otherwise happen, as people and institutions rush to act as quickly as possible before the law may change. Both of these trends result in an increase in mountaintop removal mining. This disorder is built into not only the situations that the law is meant to deal with, but has emerged into the law itself. Instead of being a bastion of order, law has become entirely about complexity and disorder.

Geography on law

> The reason of the law ceasing, the law itself ceases.
> Legal Maxim, *Broom's Legal Maxims*

Studies of the law from the outside have a tendency to treat it as a static background upon which dynamic human processes act. The primary thrust of legal geography has been to move away from the static concept, and look at the way that law and legal practice shape social spatiality (Delaney 2001). Law is seen as a series of texts and discourses that regulate the human interaction with various institutions in society, but it is also a physical process highly intertwined with the material world (Delaney, Ford, and Blomley 2001). The literature on public space, which constitutes a large portion of writing bridging the fields of law and geography, illustrates these patterns (Mitchell 1997: ; Young 2000: ; Goss 1999). The law, at best, is involved in a dialectic relationship with other processes, affecting and being affected by human actions. This conceptualization sets law apart from the actual process being studied, and creates an oversimplification of how the law works in human society. The view of law either as a static background or as one set of discourses shaping culture is an oversimplification of the law. Just as space is not merely a slate in which society happens, law is not a slate of rules that shapes social practice (Blomley 1994). In addition to texts and discourses, law is also a culture within itself. It has its own modes of operation, values, rules, and features that exist separately from the larger culture in which it is embedded (Shamir 1996). Just as property is a social relation, law is also a social relation.

Property law provides one strong intersection of law with the environment and with human society, and is one part of law that is explicitly concerned with space. Within this framework, property takes on fluid meanings that change with society's

needs. Legal forms of property shape human relations, and are themselves shaped in return (Blomley 2004). Law is dynamic and active, it constantly changes in response to a wide variety of social inputs, and its outputs shape both society and the material world. When actions are taken within the law, such as claims by lawyers and decisions by judges, these actions inherently make claims about geographical change and the spatiality of power (Delaney 1995). The law requires continual "doing" and human action. It is performed both through its own institutions, but also within society in general (Blomley 2002). Additionally, property has a performative dimension as it is constantly acted as a social relation. These performances include large actions like land use decisions and small actions such as building a fence or posting a "no trespassing" sign. Each of these actions makes specific claims both as to the particular social relation encompassed within the property claim, but also legal claims. As a relational point between people, the institution of property requires a continual communication between people (Rose 1994).

The nature of the law[16]

> "It is revolting to have no better reason for a rule of law than that so it was laid down in the time of Henry IV" (Holmes 1897: 469).

The traditional view of the law is as a science (Sutherland 1967), built from universally applicable laws which can be tested through falsifiability. In this viewpoint, law is a system that provides a mechanism and institution into which the facts can be applied to reach one unique and correct disposition (Hoeflich 1986), the quintessential "black box." The law, as a unique science, is purported to be insulated from other disciplines in the same way that one would not apply principles from psychology to

[16] A note on terminology. "Law" and "nature" are both loaded words. This study uses both the law as an analytical methodology and as a case study. Meanwhile, nature can refer to either the physical environment or the inherent characteristics of some thing (among other definitions). In this case, the phrase refers to the inherent characteristics of the institution.

geology. According to the principle of Langdellian unity[17], law has an internal conceptual order within it, and this order is permanent, elegant, and based in the long history of law (Sutherland 1967). The law, therefore, looks into itself for rules, theories, and models, rooted in "natural law" (Burton 1988). Through this, law claims internal rationality that is key to avoid criticisms of arbitrariness and nihilism that would cause it to be seen as invalid, and challenge its very existence (Fiss 1982).

Social issues began to enter considerations of the law with the legal realism movement (Singer 1988). Legal realism is designed to explain how judges decide cases, and aims at creating mechanisms through which legal decisions can be predicted (Holmes 1897). These theories were later developed by combining internal and external variables to predict judicial decisions—from previous decisions and court rules, to psychological and sociological factors from the judge's background (Llewellyn 1960: ; Frank 1949). For this reason, legal realism has often been scorned as the "what the judge ate for breakfast" school of jurisprudence. The main theory of this school of thought was that the law's internal logic systems do not justify its operations without external inputs. Legal realists were among the first to take on a nuanced view of the law and incorporate social theory, but their arguments struck to the core of the law being a natural and unchangeable science. If the law can be changed by factors external to it, what stops it from being completely arbitrary, and thus losing the reason for its very existence? At their furthest reach, legal realists posited that the justifications for a legal opinion were developed ex post facto, and often had little to do with any sort of written law (Frank 1949). The legal realists sparked a strong political and theoretical backlash.

[17] The ideals of Langdellian unity follow the work of Christopher Columbus Langdell of Harvard, inventor of the case method of legal instruction, who advocated for a single, unifying theory of the law that would apply in all situations.

The law and economics movement out of Chicago arose as another method to more thoroughly integrate society and the law, focusing on neoclassical economic theory, stating that neoclassical economic principles can be applied to judicial and legislative decision-making, as well as to the behavior of people who come into contact with the law (Posner 1995). Additionally, non-lawyers who encounter the law will weigh costs and benefits to decide how to comply (or whether to comply) with the law. Coase's Theorem describes decision-making about property, and states that if transaction costs are zero, then the initial assignment of property rights will not affect the efficiency with which resources are allocated (Coase 1960). Transaction costs add friction and change decision-making. The law (along with other actors) inserts these transaction costs, additional costs that the rational economic actor must take into consideration when deciding what actions to take regarding land. Thus, a rational economic actor will make the best choices about land use, guided to some extent by these added costs. However, if too many laws surround a situation, this ease of decision-making slows to inaction and stagnation and provides inefficient land use decisions. Because of this, followers of this theory tend to prefer private solutions to problems rather than public ones because of this minimization of transaction costs. This updating of Adam Smith's "invisible hand" leads markets to become the ultimate arbiter of property (and other legal) disputes. Law and economics has a special relevance when applied to private property, and are sometimes seen in this realm as producing a unifying theory of our economic organization (Ackerman 1975).

Another body of legal thought, critical legal theory, follows the path of critical theory in general, and seeks to uncover and explain the ways in which power intertwines

with both the legal system and the results it creates. These notions are inherently linked to the social spatialities through which we live our everyday lives (Delaney, Ford, and Blomley 2001). Legal marginalizations are often linked to material and spatial marginalizations (Goldberg 1993), such as those that appear in the Appalachian coalfields with the growth of mountaintop removal mines and the ongoing economic depression in the region. This school of thought has been widely adopted within the discipline of geography. Here, the law is important because law is power (Blomley 1994: ; Delaney 1998). "The power to define a place can often mean the power to decide its destiny" (Blomley 2002: 574). In the case of mountaintop removal coalmining, those who define the place create the material landscape and decide whether it remains mountainous or gradually changes into flatland. Law pairs with social power to gain enforcement and validity, legitimizing and making solid the power of the state (Mustafa 2001). From this place, law creates an enforceable vision of nature that gains a purchase and physical realization not beyond other societal forces, but certainly different from them (Delaney 2001). The Appalachian coalfields have power written on their physical structure, as the search for coal is changing entire landscapes, leveling mountains, burying rivers, closing communities, and changing biomes. The mining industry has long been the dominant economic (and political) force in Appalachia. These power structures have been embedded in the law of private property, which makes the study of these laws one way to trace the ways that power has come to be written on the landscape.

These four bodies of legal theory attempt to explain how law works, and in order to do that make judgments about what law is. The first three generally are seen as more explanatory, while critical legal theory is seen as more normative, but in reality, all have

both explanatory and normative characteristics. These ideas about the law, along with other ideas about society, entwine with legal decision-making and interpretation.

Each theory would produce different material results both in the court systems and on the landscape when applied to issues of extractive property and the decisions over mining procedures. According to the traditional view, the law would encourage a consistency of decision-making, allowing mining companies to engage in mountaintop removal mining according to a consistent set of rules. However, today's mining industry is marked by confusion over exactly which processes are permitted where and when and the rules governing decision-making emerge differently at different mining sites. This pattern of disorder makes sense when the legal realist theory is applied, because legal realism was developed to incorporate a large number of outside social influences to explain these types of differences. According to legal realism, it makes sense that each mine would be regulated differently because each decision-maker is different and uses different goals and inputs in deciding mining and property policy. However, the legal realists do not incorporate the material and biophysical processes that come with regulating land and land use. Law and economics incorporates a number of these materialities, but only to the extent that they have perceived and utilized economic value. Nevertheless, like traditional legal theory, law and economics theorizes a tendency to order where rational economic decision-makers will, when faced with similar variables, make similar decisions. This analysis fails when looking at mountaintop removal mining because of the sheer number of externalities that cannot yet be satisfactorily incorporated into valuation of the environment. Critical legal theory, with its focus on power, incorporates a few of these but mainly in inscribing them into the broad category of

people and things that lack power. Through critical legal theory, we can see the vast march of rapidly expanding mines across the landscape because of the ties of the mining industry into the power structures of the region. However, this theory again fails to explain the number of odd situations where mining stops, such as the small cemetery atop Kayford Mountain, which has been preserved as an island surrounded by mines.

In this way, none of the major theories explaining the operations of the laws manages to represent its interlinkages with the material landscape and people of the Appalachian coalfields. To do this, I will adopt several elements from these theories but show how they exist in much more complicated and chaotic systems of blended socio-natural interactive feedback loops in a system whose defining characteristic is disorder instead of order.

Disorderliness of the law

> "We don't just rape and pillage and then leave it like they did in the 1950s. We know we have to abide by the law." Ernest Woods, president of United Mine Workers Local No. 5958 at Arch Coal Inc.'s Ruffner mine in Logan County, West Virginia (Hodel 1999).

Law is often treated as the essence of order, the opposite of chaos. The early writers about law and property—such as Locke, Smith, and most particularly Hobbes—saw a world in which law was necessary to enforce property rights against the threat of external chaos. Law emerged as a barrier against the chaotic forces of both human nature (to try to take that which belongs to another) and of environmental nature with its constant threats of harm and danger tied to change and flux. Law is meant, in this reckoning, as the border protecting an orderly society from all the disorder that lurks around it. The claim is made that “Disorder on law’s part cannot … be located in law itself” (Fitzpatrick 1992: 81), but must arise from an imperfect interaction with

something external to it. This idea is wrong. This study will show that law is constructed of disorder and is itself disorderly. In order to deal with this perceived chaos of the world external to law, the creators of the law have imbued it with chaotic patterns. As Harris says, "There is no *given* structure[18]" to the law, only that placed on it by legal theory (1979: 92). These patterns are necessary to its operations because law provides one interface between orderly society and everything else. In order to cope with chaos, law needed to develop disorder and complexity. This complexity quickly becomes visible in environmental law, with the growth of specialized agencies to oversee its operations. "One thing I learned very quickly is, nothing in the Surface Mining Control and Reclamation Act system is simple. Anyone who starts thinking it's simple is going to encounter some trouble," said Kathy Karpan, the director of the U.S. Office of Surface Mining (McElhinny 1999).

This complexity follows a parallel drawn by others in regards to violence, where violence is not external to law and not merely an outcome of the operations of legal systems, but rather central to the realization of law itself (Blomley 2003: ; Watson 1977: ; Harris 1979). Violence is inherent to any legal system (Harris 1979), and the law seeks to monopolize violence and, if successful, would be the only source of violence in society used more as threat and coercion than actually carried out (Kelson 1967, 1961). Any law only becomes enforceable because some threat of force lies behind it, the more heinous the transgression, the more brutal the force. Littering may only earn one a fine, but treason and murder may result in the forfeiture of life. Most violations of environmental and property laws are similarly punishable by fines. One reason for this is that the actors are often corporations. While a corporation is a legal person, there is no corporate death

[18] Emphasis in the original.

penalty and no way to place a corporation in jail. This structure rewards the corporation with a privileged position, removed from the most severe instances of violence that the law can afford. The violence of the law is often compared to the external violence that makes the law necessary (Sarat and Kearns 1991). Often this is phrased as a reaction, but instead it lays in the essence of law. At the same time, the process of mountaintop removal mining is a process of violence against the landscape, as massive blasts of explosives dismember the ground and mega-earthmoving machines rearrange the landscape into new configurations. Thus, the posited tendency of the law toward chaos and complexity parallels the tendency toward violence – while simultaneously purporting to be what the law is not, it lies at the center of its actions, and through understanding its workings one can gain greater understanding of material change to the landscape.

In a similar manner, property is equated with violence (Blomley 2004). The violence starts with the acts of primitive accumulation discussed in 3, but expands to the violence of contemporary holding of property. Property must be claimed, protected, and held "as against the whole world" to assure its ownership remains stable, creating an island of private order within a sea of violence. Appalachia, as a place that has long held the reputation, from the time of the Hatfields and McCoys on down, of containing the dark heart of American violence, and modern property in the Appalachian coalfields exemplifies this violence. Coal companies post armed guards at the entrance roads to mines and residents keep a rifle handy, just in case. Violence within the law and property is certainly real, and similar to chaos and complexity I speak of, but slightly different. Inherent disorder can take on both violent and non-violent forms, but property is defined by conflict. There is no need for property to be private, until another claim is levied

against it, either private or public, and at that time, action that at least contains the threat of potential violence becomes the claiming mechanism. This complexity and violence affect both the powerful and the powerless, and create spaces for both to act.

Mountaintop removal mining highlights the physicality of violence and disorder within ideas of law and property. Its massive restructuring of the landscape is one form of violence, visible as massive explosives throw tons of rock and dust over great distances. This blasting results in sets of injury, easily seen on the land but equally felt by the residents, as when one rock, blasted from a mine site crashed through the roof of a house and landed on the bed of a sleeping boy, killing him. The concussive forces crack foundations, ruin wells, and drive people from their homes. This blasting is heavily regulated both as a potentially dangerous industrial activity and as a nuisance. These types of regulation involve, either in their construction or in their application, a balancing of the necessary utility of the action against the harms that it causes. The economic necessity of coal production mandates that blasting continue, and those who are found to be in violation of the law, using blast charges stronger than legal limits, pay a fine and continue mining.

The shock of this disorder within the law is strong, because law claims to define itself as order. It is seen as a science that results from even and certain application of rules to the facts (Watson 1977: ; Harris 1979: ; Kelson 1967). In turn, many other social systems rely on this conception of law (Harris 1979). Recognition of the disorder operating within and as the system calls for a different view of law in general. Legal scholars recognize this complexity, but largely as an internal complexity where different types of law blend to create hybrid legal institutions (Penner 1996). Indeed, the law has

been seen as a highly complex system of rules for a long time (Hohfeld 1919). However, this complexity is external as well as internal, and linked to a number of other complex systems. Understanding this externality is necessary in order to trace causes to their correct effects.

In the regulation of mountaintop removal mining, spatial and regulatory disorder are readily apparent. Both state and federal law govern mining, but they entwine to a point where it is difficult to separate them and determine which applies to any given situation. This entwining between federal and state systems reveals a spatial disorder where it becomes increasingly more uncertain which level of government in what area is meant to oversee and regulate mining operations. The Surface Mining Control and Reclamation Act of 1977 (SMCRA) is organized according to the principle of cooperative federalism, where the federal government wrote the original law, but jurisdiction passed to the states as long as they constructed a law that complied with the federal guidelines (Desai 1991, 1993). The general pattern was meant to be state enforcement of federal rules that had been adopted by the state, with federal oversight to assure compliance. This pattern is repeated, in myriad forms of variations, for other types of regulatory law. Now, court cases regarding these agency decisions are surfacing in both state and federal courts, which must determine if the rules they must apply are actually state law or federal law. “It is true that a state's surface mining regulations generally must parallel federal standards under SMCRA to be approved by OSM,” wrote R. Hewitt Pate, an industry lawyer, “That fact, however, in no way detracts from the reality that an approved state program, and the regulations a state promulgates there under, are state law. In other words, West Virginia's approved state program constitutes

state law, even though the West Virginia legislature patterned state law on federal standards" (Ward 2000).

Over time, interpretations of the mining laws have begun to diverge, different agencies have established their areas of expertise, and different parts of the mining process were permitted and overseen by state and federal agencies who used their own agency interpretations at the state or federal scale to shape their decision-making. This divergence moves into regulatory disorder, where a growing number of groups claim some control over regulating mining, but do so with increasingly different directives. With the state Divisions of Environmental Protection (DEP) and Surface Mining Offices in both West Virginia and Kentucky carrying out parts of the permitting processes, and the federal Office of Surface Mining (OSM), Army Corps of Engineers (Corps), and other agencies carrying out other parts of the permitting process, confusion reigns. These agencies often have different interpretations of the underlying law, and have begun a pattern of making requests to each other to unify their interpretations, but in a world of agency turf wars, this unification is not emerging. In order to mine, a company must obtain a number of permits from different agencies. In West Virginia, the company must get both a general permit (which often includes the blasting permit) and a water pollution permit from the state DEP. The general permit is issued under the oversight and authority of the federal OSM. The Corps of Engineers must approve any fill material being placed in streams. Reclamation plans must be approved by the agency related to the land use proposed for the site after mining. The twists and turns of the permitting processes through a myriad of agencies continue long after this point.

For one mine, the Marrowbone Mine, near Laurel Creek, Dingess, and Kirk, West Virginia, these agencies could not reach agreement. The Corps approved the fill permit, after being told to do so by the U.S. Environmental Protection Agency (U.S. EPA). However, the U.S. Fish and Wildlife Service called on the Corps to revoke the permit as the reclamation plan did not reach their standards and did not comply with a settlement in federal court. Meanwhile, the state DEP claimed that the matter was state law and mining should go ahead (Ward 2000). At another mine in Kentucky, the U.S. EPA ordered the Corps to revoke a permit to create 27 valley fills burying six miles of streams. The EPA said that this project would result in "significant deterioration" of stream quality and was, thus, beyond the discretion of the Corps to issue the permit. The Corp refused stating that the project "meets the criteria" to be issued a permit (Hodel 2001). At this point, regulatory disorder also becomes procedural disorder as the mass of agencies overseeing parts of the process, and disagreeing about their regulatory roles, have led to incredibly complex and uncertain procedures that those engaged in or affected by mining must deal with. This pattern of interaction creates an unsettled system where the current mining operation cannot rely on the decisions, and future operations cannot plan their behavior. Additionally, citizen groups cannot determine the correct agency to whom to address their questions or complaints about mining operations.

Agency is set against agency, without following the typical federal / state turf-war pattern of each claiming its own guiding law is stronger. Rather, in the mass of laws, both federal and state, which enable the agencies and guide their actions, each agency is attempting to hold to the letter of the law as they see it. As with the old men trying to define the elephant through touching only leg, trunk, or tail, each agency is given a small

piece of the law and told to work with that. Meanwhile, the state regulators have a reputation for under-funding and befuddlement, if not actual corruption. This system of complex and countermanding directives has pushed the *Charleston Gazette* to call for full federalization of the coalfields, “The only question is whether the federal government would do a better job of protecting the state's people, communities and environment. We presume it would, even if only marginally better” (Takeover: Feds need to regulate 2000).

Chaos and complexity are embodied in this process of regulatory and procedural disorder, creating a legal environment where the institution most suited to responding to complexity has the advantage in shaping interpretations. These disputes have resulted in charges that the state agencies are tied too closely to the coal companies, who often appear to benefit from the confusion created by conflicting directives by providing help to agencies often through lending out staff, work product, and legal interpretations. The *Charleston Gazette’*s editor came close to charging corruption. “Regulation by DEP of mountaintop removal was sloppy and incomplete and tilted in favor of the coal industry's desires, rather than the law's requirements” (Regulate: State has fallen down 2000). These impressions are not helped by the words and actions of the regulators themselves. In response to the question, “Is the Division of Environmental Protection of West Virginia manipulated by the coal industry?” Michael Castle, director of the state DEP responded, “Give me your definition of manipulated” (Ward 2000). In addition to the *Charleston Gazette*, some citizens have called for direct federal intervention and control. “Coal industry people don't want any federal people involved in the mountaintop removal issue. It's so much easier to manipulate state regulators and state politicians. Many

people are hoping that the feds get involved and stay involved," wrote Dennis Ferrell of Whitesville, West Virginia, in a letter to the editor of the *Charleston Gazette* (Ferrell 2000). The coal industry is seen as being the entity that has developed the best mechanisms to deal with multiple types of disorder—spatial, regulatory, and procedural. Because of this, distrust in the political process has developed. This distrust creates chaotic feedbacks through the entirety of the political process where confusion reigns supreme. A letter to the editor of the *Charleston Gazette* questioned, "We, the people of West Virginia, have in the past been able to have the protection from corrupt politicians and federal and state agencies by getting the federal attorneys and federal courts to protect us from such corruption. Whom do we turn to now?. . .Do we have to turn to the militia groups and the Hell's Angels type of motorcycle groups for our protection?" (Samson 2001). Among those who feel unable to handle the complexity, confusion can lead to a feeling of paralysis.

At the same time as disorder and chaos characterize the state regulatory process, the federal process is marked by rapid and uncertain change—temporal disorder. In 2002, the Bush Administration changed the meaning of "fill material" under the Clean Water Act. Before this change, the U.S. EPA barred the placement of waste in any stream that ran at least part of the year and this order was carried out through the mining permitting processes overseen by the Corps. This re-interpretation placed nearly all mining waste into the category of "fill." As it always was legal to place fill material in streams, suddenly the formerly banned waste could now be placed in streams without fear of legal violation. At the same time, a federal court put forth a conflicting interpretation, blocking the Corps from permitting most mountaintop removal valley fills, unless they

served a specific purpose under the post-mining site development plan, and declaring the federal reinterpretation of the meaning of "fill" to be explicitly counter to the Clean Water Act (Ward 2002). Here, the process of regulatory disorder has moved into temporal disorder, causing rapid changes in the meaning and interpretation of the law. These dueling interpretations are still filtering upwards through the appellate processes.

In this legal environment, words have uncertain meanings, agencies have uncertain powers, and no one is truly in charge—both spatial and temporal disorder at their clearest. With different regulatory and legal actors reaching conflicting decisions, the situation causes all interested parties—citizens, industry, environmental groups—to seek help from whichever legal entity they perceive to be friendliest to their interpretations of the law. Again, this shows a movement over to procedural disorder, where raw complexity in legal processes has caused a fracturing of abilities and interests within the institutions of government. As a result, working interpretations of the law become further and further apart and large gaps in regulation appear in the chaos. Into this gap pours a rapid expansion of mining, as the only logical course of action by an industry that fears that next year, or next administration, the law will change again. The expansion of mining is the material result of disorder.

Legal jurisdiction and spatial disorder

> Law hateth new inventions and innovations.
> Legal Maxim, *Wingate's Maxims* (p. 756, max. 204)

To understand spatial disorder, it is important to examine the workings of the law as it relates to the institution of property. Property law is predominantly common law, rather than statutory law, which means that it emerges and develops through a system characterized by procedural disorder. Common law evolves on a case-by-case basis or a

bottom-up approach, as opposed to statutory law, which, as least in theory, is a policy result of a deliberative process, top-down. This common law tradition mixes incredibly old elements with newer cases decided one at a time, in reference to what went before. This process delimits rights and remedies through particular lawsuits emerging from specific conflicts over the rights and duties tied to property. Thus, property law is a responsive social relation rather than proactive one, as statutory law may be—and this responsiveness creates an internal disorderliness. Common law forms and molds in response to individual cases and controversies that emerge over various plots of land on the face of the earth. The legal decisions, results that will apply to all future cases, emerge from the specific pattern of facts that underlies the conflict at hand. As a concrete result, unusual disputes become precedent; often producing odd results in their subsequent application.

This reactive nature has evolved a body of law that is highly geographically irregular and full of spatial disorder. Legal practices are inherently spatial, in that they exist over certain areas and often affect groups in a spatially uneven manner (Delaney, Ford, and Blomley 2001). Each plot of land, in this maze of decisions, laws, and jurisdictions, may be governed by sets of laws that are different from those that govern other plots. The multiple and fractured nature of the law starts with a layering of multiple levels of legal and governmental control of a piece of property. Property law works not just in place, but more so in a variety of parallel and overlapping places. Each piece of real estate in land sits on a measurable chunk of the earth. This chunk of earth is marked by various physical properties and human improvements (such as a fence or a house). This chunk of earth also sits in a variety of overlapping jurisdictions, a legal version of

scale. It may sit in a town or county, a state or country. Courts operate at a municipal, state, circuit (regional), and federal level while legislative bodies operate at local, state, and federal levels. Each of these jurisdictions has its own set of laws that apply to the chunk of earth. It may also be subject to lower level jurisdictions in neighborhood covenants or planning ordinances, or the larger jurisdiction of international law. Thus, the first step in tracing the disorderliness of property law lies in determining the jurisdictions, and therefore the laws, that govern the property and the conflict over it.

Additionally, the courts work at a variety of scales, and their jurisdictions often do not match up with the city, county, or state boundaries. Both state and federal bodies of law have courts to support them. Federal courts hear cases deal with federal law, but they also hear cases applying state law if the parties to the dispute are from different states, a concept called diversity jurisdiction, or fall into another legally recognized exception. The federal courts are arranged into circuits encompassing several states, with each circuit divided into districts. Each state contains at least one district, but each state may be divided into multiple districts. Often districts disagree on exactly how a law should operate. The Circuit Courts can resolve these disagreements if they accept a case dealing with them, but they do not have to accept cases as very few matters receive an automatic appeal. Additionally, circuits may disagree and the U.S. Supreme Court is the entity that resolves these disagreements, if it decides to accept a case that addresses the differences. Recently, the number of these cases the Supreme Court hears has fallen, and we currently see a larger number of Circuit splits than ever before. State courts hear cases dealing with state laws but can, again, also hear federal matters in some circumstances. The state courts are arranged in a similar manner, with tiered jurisdiction leading to the state

supreme court. Municipal courts may also enter the picture if the parcel of land falls within city jurisdiction limits, and falls under the scope of municipal ordinances, such as requirements to maintain an orderly lawn. (Mining properties seldom fall within municipal boundaries, thus mining cases are seldom heard within municipal courts. The one exception being cases involving overloaded trucks leaving the mine.) This arrangement is complicated by the fact that often one matter will involve both state and federal law, in which case the party bringing the lawsuit may make a strategic decision to bring their case before one or the other. In this manner, similar cases can be decided by different decision makers with varying priorities and interests, another aspect of disorder.

Judges and policymakers generally operate on the assumption that while different rules may apply on different sides of boundaries, the boundaries have little effect on the equality of peoples and interests on different sides of them. However, jurisdiction is not a neutral ground that merely sets limits for the actions of various authorities, it is instead intertwined with social, political, and natural practices and has effects on all these practices as well. Richard Ford has shown the neutral slate theory of jurisdiction to be faulty, as the presence of different legal boundaries often have material effects and can enhance inequalities (1994). These jurisdictions can produce both political and social identities, but, in turn, the jurisdiction itself is a social practice and a discourse, or way of speaking and understanding the world. In this way the material and discursive become intertwined (Ford 1999). Today, we see federal courts making substantially different decisions governing mining in West Virginia and Kentucky, just as state courts are making substantially different decisions than are federal courts.

While each of these jurisdictions may have slightly different interpretations of law, they also specialize in utilizing different types of laws. Any individual controversy will involve a variety of different types of laws, and thus the court from one jurisdiction will often necessarily be applying some laws from another jurisdiction. This variety of laws and jurisdictions creates a web of applications and precedents that can be specific to particular pieces of property as they sit at a particular junction of irregularly nested jurisdictions. In this manner, more procedural disorder has grown from the process of spatial disorder. For example, at the closest scale, individual contracts as private law govern many aspects of land ownership and transfer. Each transfer of land, or land rights, involves deeds, titles, covenants, and other contractual agreements worked out between the parties and connected to the land. Next, local laws emanating from the city or county include property assessment and taxation, creating a duty of yearly payment to the government. They may or may not include zoning, creating restrictions on the use of the land. They often include eminent domain, where certain rights are granted over to government bodies (to carry mail onto the land) or public utilities (where property rights are ceded to run utility lines, and other measures of access.) At the state scale, a wider variety of laws may apply. These may also include taxation and land use restrictions. They may also include restrictions or grants of the ability to transfer the land – inheritance laws, title requirements, sales taxes, and the like. Additionally, states have environmental laws restricting some land uses and placing requirements upon others. There is likely another layer of taxation – perhaps on the property itself or perhaps tied to certain uses of the property. Federal laws include environmental regulations, some taxation, and other controls often tied to involvement of the land in interstate commerce.

Occasionally, international laws – such as the migratory bird treaties that can limit certain land uses – may enter the equation. Any individual case dealing with property or land use can have any number of these issues arising in any combination.

Any plot of land will sit within several of these tiered jurisdictions, the boundaries of which separate that plot from other similar plots. A neighboring plot, sitting across a state or county boundary line, will have different laws applying to it. These differences range from trivial to major, and in an active way will affect land use choices along with social and economic patterns. Additionally, if a conflict comes before a court, these jurisdictions play out in a reactive way, creating decisions based on both the individual piece of property in question and the particular conjunction of laws from the jurisdictions that overlay the property. These decisions, in turn, become active and shape future land-use decisions within the jurisdictions. As this process repeats case after case, the pattern of precedent becomes more complicated, and often more individualized, although not by design. Instead of unifying, as is the express goal of legal institutions, the result is a fracturing and increase in disorder.

This spatial disorder creates material results, often stagnation, uncertainty, or a rush forward to mine as much as possible before legal interpretation changes as it takes on a temporal component. Laws surrounding mountaintop removal mining are currently in just such a mixed state, with different policy-makers putting forth different ideas, causing the entire legal system to stagnate at a point of uncertainty. No one knows when or where today's actions, while completely legal, may be banned or have their regulatory structures changed entirely. The *Charleston Daily Mail* notes the material effects of this disorder, "The policy-makers of the nation ought to be ashamed to take so long to clarify

rules that will affect thousands of families. The coal industry and the families who depend on it deserve more consideration than that" (Mining Regulators need to display more concern for the regulated 2000). In a rare show of solidarity, the normally liberal *Charleston Gazette* editorial staff agrees with the normally conservative *Daily Mail* editorial staff about the strong impacts of this disorder, "Nonetheless, the fuzziness in enforcement is troubling. Even more disturbing is the abandon with which Kentucky issued variances for an illegitimate post-mining land use. Also disturbing is the fact that the feds ignored the state's violation of law until a lawsuit and protests in West Virginia forced them to pay attention" (Takeover: Feds need to regulate 2000). This temporal disorder's material effects are causing both comprehension and application problems in Appalachia.

The result of the legal property regime is spatial disorder—where each parcel of land has a different legal framework and set of rules governing its ownership and use. The law has created a structure of multiplicity, fracturing, and difference, which by its nature is a disorderly and complex structure. In this way, spatial disorder has highly individualizing characteristics, where each property becomes increasingly different from each other property. In the Appalachian coalfields, this disorder has served to enable a dual system of primitive and capitalist accumulation that has led to both intensive and extensive concentration of land ownership in a small number of hands. However, this system may also contain the roots of change, if utilized correctly. Most study of property law assumes it is a static entity, a backdrop against which social and economic change happens. Instead, property law acts as a dynamic system in an interactive feedback loop with society, economy, and environment. The law changes all of the factors it interacts

with, and is in turn changed by these factors. This situation contains multiple points of interaction, any of which can provide an entry point for positive change.

Into the third (and fourth) dimension

> Too much subtlety in law is discountenanced.
> Legal Maxim, *Wingate's Maxims* (26)

Often, land ownership is described in two dimensions – the farmer owns 160 acres of land or the couple just purchased a 3000 square foot house. The ideal of land ownership is summed up by the legal canon *cujus est solum ejus ad coelum et ad inferos* – the person who owns land owns from the ceiling of the sky to the depths of the earth (Blackstone 1979). Land is almost never owned in this sort of totality. However, this ideal maintains purchase and people often conceptualize land ownership along these lines. Generally, it is harmless to think in this way, as airplane flight rights may be noisy but do not push forward the idea "you don't own this." Likewise, we all know that there are gas and water lines running under the earth into our houses and television and electric cables linking our homes to the street and the outside world. These mechanisms serve our property needs and we do not often think about not owning them. However, all of these little intrusions add up, and we seldom stop to think about how little of the chunk of earth our houses sit on that we actually own.

Land ownership is a spatial system. It exists within nested and conflicting scalar frames, encompassing different properties within a three-dimensional network (Underkuffler-Freund 1996). The dominant metaphor of property ownership in common-law system is as a bundle of sticks (Cardozo 2000 [1928]). One may have rights to the property—to sell it, to will it, to use it; one may also have duties in accordance with it—to maintain it, to improve it, to pay taxes on it. This bundle also includes negative rights,

such as not having the right to use it so it harms your neighbors or the tenant's right not to have the landlord stop by unannounced. Other rights can only accrue to those who are not the "main" owner, such as the right to cross the land or the right to run utility lines across it. Some rights may go to the government, such as the right to tax the land. The rights may also be temporary, as a option right for sale that prohibits the owner from selling the land to another person for a limited period of time (Friedman 1985). Thus, these rights have both temporal and spatial components generating material effects on land use (Platt 1996).

Our systems of ownership have developed to allow for separation of these rights. As with a rental property, one person has the set of ownership rights and the other has the set of usage rights. Rights and duties can be separated from the main owner of the land in a variety of ways. In a trust (a traditional form of land ownership in equity), one person has the benefits and profits of landownership, while the trustee has the duties to oversee and maintain the property. Rights can be obtained singly or in sets; for example, the timber rights to a property would be worth little without access rights to harvest the timber. This separation of ownership rights has enabled a third dimension of layered ownership as well as a fourth dimension of changing ownership over time to overlay landownership that was traditionally conceptualized in two dimensions. Each piece of property in land is therefore distinguished both spatially and temporally from all other pieces of land, and creates opportunities for greater disorder along both dimensions.

Property law works as a dynamic and functional system. The regulations in place encourage people to view and use property in ways that meet current economic and policy goals. Both the rules and the behaviors they encourage change over time as

society's values and goals change (Sax 1993). Resource land is often owned by several different people, and can have separate owners for surface, coal, oil, gas, timber, and any other item of value that exists on or within the land. In the Appalachian coalfields, the most common pattern is to have mineral ownership separated from surface ownership. As the owner of the minerals holds the vast majority of the worth of the land, the mineral owner gets priority in making land-use decisions, or in legal terms, the mineral estate has dominance over the surface estate. The separation of mineral ownership from surface ownership points to a flaw in the argument of *The Tragedy of the Commons* that privatization discourages degradation. The owner of the minerals, without owning the surface, has no incentive other than environmental regulation to minimize degradation to the surface. As a rational utility maximizer, the mineral owner only has the incentive, and indeed the responsibility, to maximize the utility in what it owns—the minerals. Even if that owner also owns the surface, as the structures of the system have removed much of the value from that commodity, its preservation contains only minimal economic worth, and is thus systemically discouraged. Thus, the privatization that is meant to encourage preservation, in places where land is spatially separated, can work to encourage degradation instead.

Most of the discussion of the third dimension of property focuses its gaze upwards within the urban and cities literature, and in particular the literature on tall buildings. Skyscraper construction often requires the negotiation for zoning variances to be allowed to build above the limits set in municipal building codes. Additionally, the maker of a tall building must often secure air rights (avoiding overhead planes), and occasionally rights to light from the smaller buildings that will sit in the skyscrapers

shadow (Steinberg 1995). Study of alternative ownership regimes, such as the condominium, where each owner really owns a box of air, with additional rights of services and support, also illustrate the spatiality of land ownership (Platt 1996: 97). The urban literature occasionally refers to the property underneath the land. Often the underground of cities belongs to sets of layered rights. If one cuts a cross section, one will run across basements and sub-basements, sewage and utility lines, access and steam tunnels, shallow and deep subway lines, and other parts of the city's infrastructure that need to be hidden from view. These multiple uses infrequently emerge into the public consciousness; and, if they do, it is generally during large public works projects such as Boston's "Big Dig" that open the underneath to surface view, thus rendering the invisible infrastructures visible, although not rendering the ownership patterns visible in the same way. However, within cities, most of these layered rights that are not tied to the land owner are city property through the public good usage of eminent domain. While different government agencies, and even private companies, may have control over these areas, they are bound to use them for the public good. Generally, uses such as water and utilities support the surface use, rather than work against it. Thus, the literature on urban layering cannot explain the layering in rural resource lands.

Rural land is also owned in three dimensions, but not in a way that is as visually obvious as in cities. Traditional rural land ownership, going back to feudal England, was never held in the fee simple absolute[19]. Each social class had a set of social obligations to each other, and many of these obligations were intertwined with relations to and with the land. Overall, the monarch, who then granted differing sets of rights to feudal lords

[19] Fee simple absolute is the ideal of property ownership, where one person owns all parts of the property and none are severed and granted to other owners.

over pieces of property, held the land. Sometimes this grant of rights was almost complete, and in other places, the monarch retained rights to various parts of the land – such as the right to harvest deer. The crown was the ultimate source of all property rights. With each parcel of land came the serfs, people who lived on the land, who were required to give service to the lord, and were conceptualized as part of the land. Serfs existed in a variety of "unfree tenures," which, interestingly, were not fully abolished in England until 1926. Additionally, most areas of land also contained freeholders who, while not part of the land, generally tended to stay in one place. Both types of people had varying sets of rights to different layers of the land – depending on individual situation and local custom. Some of these rights were held as commons, but others were individually vested, and often a single piece of land would host both individual and common rights (Hogue 1966).

Most of these rights died off in the Sixteenth Century with the consolidation of land into large estates through primitive accumulation. Many of these rights were unified with the surface of the land, but others were held aside. Mineral and timber rights were two of the most important. In England, the mineral rights were reserved to the crown, and, until recently, government corporations operated all English mines. As England was heavily deforested, timber rights were often held by the crown for naval construction, or simply the revenue from sales. This divestment of common property tied to both the people and the land enabled the beginnings of primitive accumulation as preparation for the move into capitalism (Marx 1976 [1867]). It also established a pattern of multiple and layered rights that were exported to England's colonies with the common law system.

As the United States inherited its property law from England, this idea of layered rights in land was also inherited. Unlike England, the mineral rights were not held by the State. (Many other countries around the world retain certain rights to parts of the land to the State or the people.) In the US, these rights were included with the original grants of land and ran with the land until deliberately separated by contract or deed; mineral, timber, and other rights were severable. Today, many of these rights are severed, and "most valuable minerals in the United States are owned separately from the land which overlies them" (Huffman 1982). The result is a stratified and severed layering of ownership vested in several different people, which establishes and preserves the dominance of the mineral rights and the decision-making of the mineral owners (Wenzel 1993). The mineral owner, without having a claim to full-surface use, has the right to use the surface as is "reasonably necessary" to extract the minerals (Getty Oil Co. v. Royal 1967). Today, with mountaintop removal mining, this dominance of the mineral estate can result in the removal of the entire surface estate; and, while compensation must be paid, the surface owner has no real control over the situation, illustrating the most drastic material result of the system of layering, severing, and fracturing along both spatial and temporal characteristics.

Uneven development and complexity within the law

> "Regulation by DEP of mountaintop removal was sloppy and incomplete and tilted in favor of the coal industry's desires, rather than the law's requirements." Editorial, *Charleston Gazette* (Regulate: State has fallen down 2000).

Three different sorts of laws work at these scales, written statutory laws created by various levels of legislative bodies, common law (which built up within the courts over years of interpreting general principles), and regulatory law (which is the most

flexible of all written to fill in the details that the other sorts of law omit). Property law is one of the oldest bodies of law still in use, with many common law principles carried over from the English system during the time of colonization (Friedman 1985). Where a legislature has spoken, those newer rules trump common law, but in many matters of property, the legislative bodies have remained silent, relying on the older principles that have worked for years. As property is seen as eternal, legislatures see little need to impose change. Little direct property law is regulatory, but the regulations enter strongly in the field of environmental law and these regulations have profound effects on property rights and land use, creating new sets of rules, duties, and obligations—and introducing change into a seemingly unchanging system. The entry of environmental law into this common law system created new opportunities for regulatory and procedural disorder, providing another layer of laws to supplement, and sometimes confuse, an already complex body of common law.

Often the different bodies operating in different places and at different scales do not move in unison. A property owner may be faced with contradicting rulings, or face the possibility of the law rapidly changing as issues arise at different levels. Federal and state courts may disagree over whether a mining permit was correctly issued, or the discovery of an endangered species may suddenly present different duties for land use. Law over mountaintop removal mining, involving multiple agencies and both state and federal law often operates under conflicting directives. The late 1990s and early 2000s saw a number of lawsuits brought against the practice on a number of grounds, while state legislatures were re-writing relevant laws and federal agencies undergoing a change in regulatory interpretations. Representative Bob Wise, a Democrat from West Virginia

who later became governor, unsuccessfully called for a moratorium on mountaintop removal mining permitting until some clarity could be gained on the issue. “So many substantial questions have arisen on federal, state and judicial levels, the only responsible thing to do is to have a temporary moratorium on any new mountaintop removal permits until OSM and the governor's commission have issued their reports and these important legal questions are settled” (Ward 1999). However, that measure would have brought much economic activity in the region to a screeching halt, and was thus rejected. The idea of stability in the system, although illusory, discourages change.

In the United States, there were once courts in both law and equity, which evolved from the British system that still maintains separation. Different types of courts had different rules of operation and offered different causes of action and remedies. Typically, although not universally, courts of law awarded money damages and courts of equity could cause some sort of action to be taken. However, these courts often squabbled over who had the rights to see the cases, and began to develop forms and remedies that mimicked each other. Meanwhile, the procedures of the courts, in their ties to historical forms, became increasingly arcane; and what a person said when they filed initial papers for a lawsuit often little resembled anything that was actually happening. Increasingly, the courts began hearing the similar cases. In an effort to simplify the law, the United States joined the two sets of courts into one unitary legal system in the early 20th century (Friedman 1985). However, within that single court, law and equity still operate. In a court case over a land sale, a person may invoke the law to gain money damages for breach of contract or evoke equity to cause enforcement of certain promises. The combination of courts of law and equity was meant to simplify the system; however,

it ended up creating greater procedural disorder by enabling rights and remedies from both bodies of law to operate simultaneously, and occasionally in conflicting manners.

For the coal industry, the border between West Virginia and Kentucky is relatively porous, with mining operations easily moving between the two states. Because of this porosity, state legislatures in both states have attempted to simplify operations by bringing mining law, practices, and fee schedules into alignment (Underwood 1998). However, each state also has layers of property and other laws that surround mining operations that can be quite different. Any change in rules causes confusion not just among the coal companies, but also among the regulators themselves: "State regulators now want to know two things: 'We want to know how the rules apply. Just where do you stop filling valleys? And we also want to know if the same rules are being applied elsewhere. Or, is West Virginia an exception? This is extremely unfair to West Virginia's economy'" explained DEP attorney Brian Glasser (Coleman 2000). With the close physical proximity, it is easy for mining companies to threaten to move from one state to the other, selecting the state providing less-restrictive rules. Again, an effort to simplify resulted in a greater creation of procedural disorder by increasing spatial divisions and, thus, increasing the number of available choices in legal mechanisms.

Regardless of location, costs of opening up a new mine are high, see Figure 6.2, and profit margins are often quite small. These economic pressures drive jurisdiction-shopping among mining companies. While the location of the coal is the primary driver for locational choice in mining, many local factors, such as taxes, compliance costs, and wages factor heavily into decision making.

Item Description	Year 0	Year 1	Years 2 thru 10	Total
Motor Grader	$0	$400,000	$0	$450,000
Water Truck	$0	$600,000	$0	$600,000
5 Yard Backhoe	$0	$300,000	$0	$300,000
Light Plants	$0	$150,000	$0	$150,000
Mechanics Trucks	$0	$520,000	$0	$520,000
Fuel Truck	$0	$130,000	$0	$130,000
Service Truck	$0	$260,000	$0	$260,000
Portal Trucks	$0	$75,000	$0	$75,000
Pick-Up Trucks	$0	$150,000	$300,000	$450,000
Total	$0	$2,635,000	$300,000	$2,935,000

Source: Meikle & Fincham, 1999

Item Description	Year 0	Year 1	Years 2 thru 10	Total
Haul Road	$1,000,000	$0	$0	$1,000,000
Pond Construction	$500,000	$0	$1,000,000	$1,500,000
Stream Mitigation	$500,000	$0	$0	$500,000
Permitting Related	$500,000	$0	$0	$500,000
Exploration	$350,000	$0	$0	$350,000
Clearing & Grubbing	$460,000	$230,000	$920,000	$1,610,000
Office/Warehouse	$200,000	$0	$0	$200,000
Radio System	$50,000	$0	$0	$50,000
Pump System	$150,000	$0	$0	$150,000
Power & Phones	$150,000	$0	$0	$150,000
Total	$3,860,000	$230,000	$1,920,000	$6,010,000

Source: Meikle & Fincham, 1999

Figure 6.2: Capital budget over life of an average mountaintop removal mine
Source: (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003)

Once unevenness begins to appear in one situation, the feedback properties of the system allow further unevenness to arise in other situations. Decisions begin to be made on a parcel-by-parcel basis, as this is the only scale under which it is possible to determine which sets of laws apply. Thus, not every mining site is regulated under the same set of rules, even within a single state or jurisdiction. "The state Division of Environmental Protection has exempted thousands of acres of regulated mountaintop removal from reclamation rules required by a federal court agreement, state records show" (Memos show state exempted many acres from mining rules 2000). In turn, this leads to greater spatial disorder, less temporal permanence, and a move to greater individualization in legal interpretation.

The existence of different regulatory policies over different parcels of land opens the opportunity for these regulatory structures to change over time. Any rule change at any point within the system can simultaneously affect a number of different properties in different ways. In the resulting confusion, the dates at which permits are filed along with the stage of advancement of the mine-permitting process become key factors in determining exactly which set of laws governs the operations of each piece of property. "There is a pipeline question," said Ben Bailey, a lawyer representing the West Virginia DEP, "I think there is a question about how the policy will be applied and which version of the policy will be applied to permits already in the pipeline" (Ward 2000). Individual judicial or regulatory decisions over specific parcels of land cause chain reactions through the jurisdictions in which they sit, unevenly changing the rules for some but not all parcels.

Rules begin to emerge that directly contradict each other, causing greater regulatory disorder and procedural uncertainty. One such clash emerged in 2000 in Kentucky over the buffer zone rule, which was meant to establish which streams needed to be protected from mining's impacts on water quality. Kentucky regulators said that mining companies were only prohibited from placing material in streams that lay downstream from the valley fills associated with mining. The federal Office of Surface Mining said the rule applied in both directions—upstream as well as downstream (Ward 2000). As SMCRA operates under the principles of cooperative federalism, in cases such as this, the state is supposed to change its regulatory interpretations to bring them in line with the federal interpretations. In this case, the opposite ended up happening, and the federal system changed its rule interpretation to bring it in line with Kentucky's interpretations (Environmental Protection Agency 2001). Now, in all states, waters flowing upstream from valley fills can be repositories for waste. These situations are shifting the commonly accepted directionality of change within the system and creating feedbacks of greater disorder.

These water quality issues expand beyond the borders of the mines and streams, and have become a major concern of residents in mining areas. Figure 6.3 illustrates one moment of protest, where a resident presented Bob Kiss, the West Virginia Speaker of the House of Delegates, with well water—and dared him to drink it. Residents of the area, who would otherwise have a friendly view toward mining, turn very unfriendly when they have to purchase drinking water from the store.

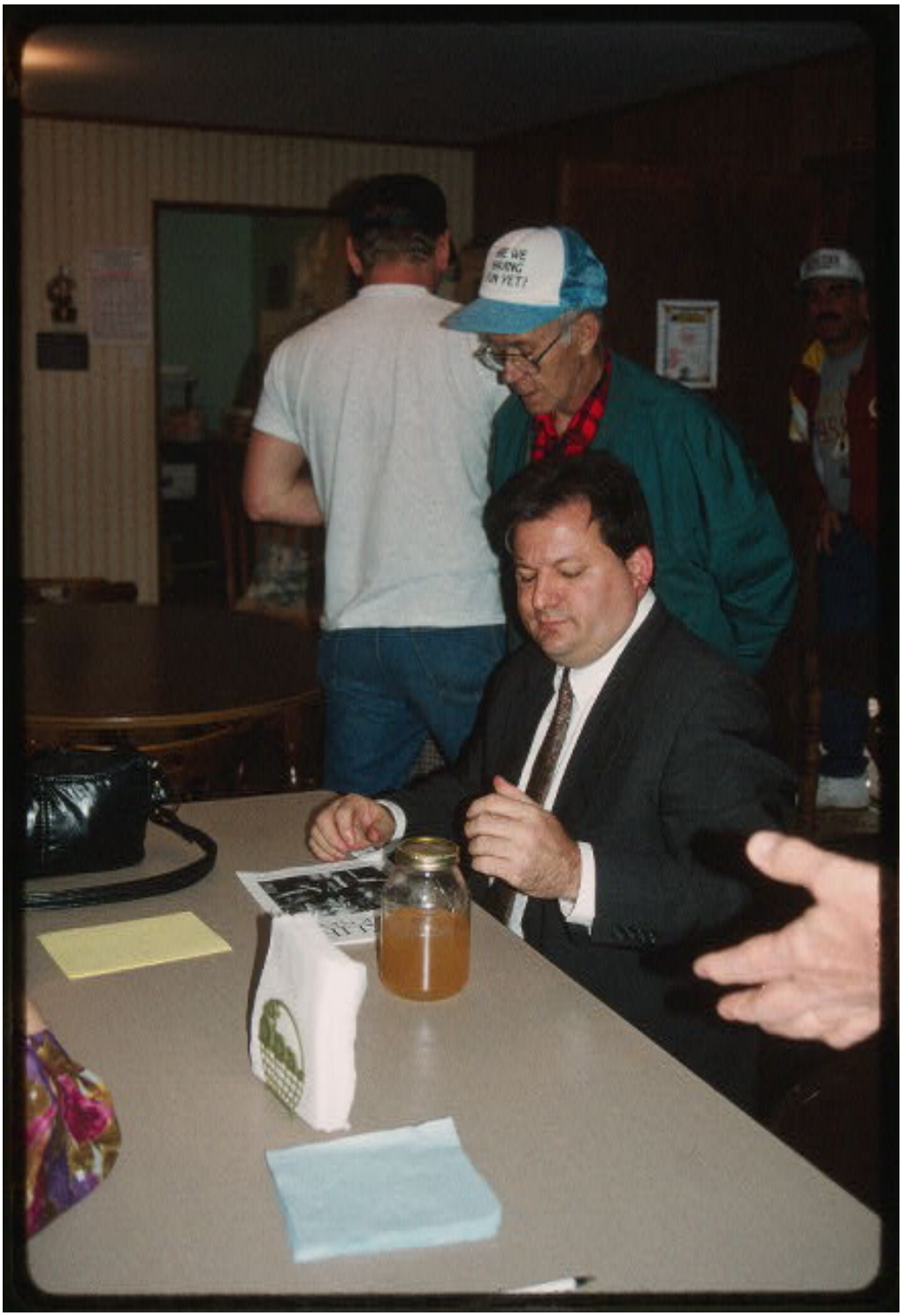

Figure 6.3: Bob Kiss, Speaker of the House for the West Virginia Legislature, looking at jar of well water, presented to illustrate the effects of blasting on the water supply
Source: (Hufford 1998)

Parallel to these regulatory changes, the same issues were filtering upward through the federal courts. Charles Haden, the federal district judge who oversaw cases on both sides of the West Virginia and Kentucky border, declared that mining operations were barred from placing dirt and rock in perennial and intermittent streams, but were only allowed to do so in ephemeral streams, which flowed only in response to rain or snow melt. However, the 4th U.S. Circuit Court of Appeals declared that the system of cooperative federalism triggered the state's sovereign immunity from suit under the 11th Amendment to the constitution, and that Haden, a federal judge, had no right to hear the case. This ruling solidified the shift in directionality of legal interpretation of SMCRA cases, potentially causing echoes in other types of law. Thus, even the decision of whether or not state rules were as strong as federal rules ceded to the interpretation of the state. The only option left for the federal government, if it wished to see change, was to throw out the entirety of state mining rules and reclaim full control by the federal government. This interpretation nearly bars federal oversight of mining law, unless the federal government chooses to take the most drastic of all possible actions.

Through this decision, the Court of Appeals earned the ire of Representative Nick Joe Rahall, Democratic congressional Representative from West Virginia, who believed the Haden decision was wrong on its merits, and supported the right to fill streams to extract coal. He stated, "Instead, this case is apparently being used as a stalking horse to advance a much larger agenda that has nothing whatsoever to do with coal mining and environmental protection. At stake is whether citizens have the right to access federal courts when they believe they have been aggrieved by their government" (Radamacher 2001). In this manner, a small amount of regulatory disorder in legal interpretation

spiraled out into a rule change that cuts to the very heart of both the regulatory system established over coal mining and the balance of power between the federal and state governments.

Federal regulators protested, and the U.S. Department of Justice filed a petition stating that this interpretation would end all federal mining enforcement. Acting Assistant Attorney General John Cruden wrote, “By SMCRA's express terms, [OSM] has the continuing responsibility to enforce the requirements of an approved State program as a matter of federal law where a State has failed to do so. The Office of Surface Mining Reclamation and Enforcement within the Department of Interior does precisely that, issuing notices and appropriate orders in primacy states where the terms of SMCRA apply” (Ward 2001). All potential reconsideration of this major systemic change ended when this request for review was denied by the Court of Appeals (Ward 2001), and then by the Supreme Court in 2002. The decision also contradicts two West Virginia Supreme Court rulings, from 1988 and 2001, both of which said that state mining regulations are federal law (Ward 2001). Thus, the state says the matter is federal, the federal government says the matter is left to the state, and all responsibility for mining regulation is moved into complete disorder.

In this manner, the myriad laws that govern mountaintop removal mining—whether property, environmental, or from other fields—have developed an inherent uneven application and complex pattern of operations. Currently, we see a pattern of even greater fracturing linked to the inherent tensions in the operation of such an uneven system. If the law is tied to order, then it inspires concepts of fairness, justice, and reason. When the law ceases to operate according to these orderly expectations, it sheds

its ability to meet societal expectations, whether measured by the coal industry or those who oppose it.

Environmental law: public duties

> Many things have been introduced into the common law, with a view to the public good, which are inconsistent with sound reason.
> Legal Maxim, *Broom's Legal Maxims*

Environmental law comprises a large part of the public framework against which private property is balanced (Freyfogle 2003). It broadly lays out the public goods that land provides, such as clean air, potable water, and wildlife habitat. Landowners are expected to use their property in compliance with these rules in order to preserve the rights of often nameless and faceless others, instead of specific neighbors with more tangible claims. However, over time, environmental law has become a highly complex set of duties and obligations—originally framed by Congress or state legislatures with the details filled in by numerous regulatory agencies.

The general disorderliness of the law becomes amplified with an examination of environmental law (Lazarus 1999). "The statutes are numerous, complex, inconsistent, and just plain poorly written. Regulations are voluminous and every bit as contorted. . . . Then there is the scientific complexity of it all and the infusion of complex economic jargon" (Freyfogle 2006: 79). Environmental law adds additional rules that must be followed by the landowner or user. The law, especially through the Surface Mining Control and Reclamation Act (SMCRA), the Clean Air Act, and the Clean Water Act, shapes usage of mining land but leaves room for different regulatory interpretations that give birth to their own environmental conflicts.

Part of the reason for this disorderliness lies in the nearly hallowed private property characteristic of mining lands. The institution of private property contains a strong imperative to protect private uses and choices, even when they do conflict with public use and choice. *Charleston Gazette* reporter Ken Ward Jr. obtained a computer slide show prepared by the federal Office of Surface Mining that advocated removing federal regulations on post-mining land use and forest protection, even though the current protections were inadequate to protect public interests in these areas. The slide presentation stated, "Actions to promote reforestation involve private property rights, and are difficult to implement. As a result, OSM and [the Corps] are reluctant to impose regulatory requirements to minimize terrestrial impacts" (OSM Regulators don't regulate 2002). Respect for and deference to the institution of private property lie at the core of thinking about environmental protection, making it difficult for public rights to be elevated to any such esteem.

SMCRA establishes broad requirements for coal mining reclamation. These include bonding to fund reclamation activities, classifying some lands as unsuitable for mining, requiring the land be returned to its approximate original contour, and establishing the permitting process (*Surface Mining Control and Reclamation Act (30 U.S.C. sec. 1201 et seq.)* 1977). Meanwhile, the Clean Air Act established a preference for low-sulfur coal to reduce air pollution, creating a greater demand for the types of coal found in southern West Virginia and eastern Kentucky (*Clean Air Act (42 U.S.C. sec. 7401 to 7671)* 1977) and spurring the need to find more economical ways to extract coal. This new extraction method, mountaintop removal mining, necessitates the burial of streams. Such burial is regulated under the Clean Water Act, which gives the Army

Corps of Engineers jurisdiction over the stream permitting process (*Federal Water Pollution Control Act (33 U.S.C. sec. 1251 to 1387)* 1948 (1977)). Congress created each of these acts to serve different goals, each involves different uses of similar language, and the three acts were not designed to work together as they were conceptualized as dealing with quite different areas. In disputes over mountaintop removal mining, these guiding laws are filled with regulatory and procedural disorder as they not only come into conflict with each other but also create new conflict over their interpretation and application.

This regulatory disorder is illustrated by one court settlement over mountaintop removal mining from 1998 that involved four different federal agencies—the U.S. Environmental Protection Agency (EPA), the Office of Surface Mining (OSM), the U.S. Fish and Wildlife Service (Fish and Wildlife), and the Army Corps of Engineers (Corps)—all needing to be involved in issuing permits to mine. Added onto this group of federal agencies, several state agencies were party as well. These agencies included the West Virginia Division of Environmental Protection (DEP) along with its Office of Mining and Reclamation which has the power to carry out federal laws under the cooperative federalism arrangement of SMCRA giving enforcement powers to the states as long as they carry out the federal provisions (Desai 1991, 1993). In 1999, a new Office of Explosives and Blasting within the DEP was created with the sole purpose of overseeing and permitting blasting at mountaintop removal mines. The same bill established a new Office of Coalfield and Community Development within the state Development Office to aid economic development after mining (Bundy 1999). In this way, the law becomes less and less comprehensible to the people who come into contact

with it: “The law says we can have mountaintop removal but it doesn't tell you how many valley fills is too many,” said Kathy Karpan, OSM Director (Warrick 1998).

One of the biggest disputes surrounding environmental controls on mountaintop removal sites focuses on the post-mining land use of the site. The easiest way to reclaim the site is to set it into pasture, grassland, rangeland, or “fish and wildlife habitat,” which requires the mining company to compact the soil and plant grasses. In West Virginia, the state DEP advocates forestland with valuable native hardwoods, which serves the triple purposes of reversing regional deforestation, providing wildlife habitat, and creating future economic use. However, this land use is opposed by the mining companies because it requires additional costs (Ward 1999). Planning for a post-mining land use is a prerequisite under SMCRA for mountaintop removal permitting, and land must be put to a “higher and better” economic use than that which it held pre-mining. More than 110,000 acres of timberland were lost to West Virginia strip mining between 1985 and 1997 and most mountaintop removal sites have been left as flat pastures, without development or actual farming activity (Ward 1999).

The regulatory and procedural disorders within the system have created many places for people and institutions dissatisfied with existing reclamation requirements to enter the process. The legal process shapes land-use choice as SMCRA and the implementing state regulations set basic requirements for reclamation. These requirements are shaped by the different ideas and understandings incorporated in the term “reclamation.” Meanwhile, a history of court decisions has resolved some conflicts over uncertainties in the law and established additional requirements. Two layers of political power—state and federal—have different goals and ideas incorporated into

reclamation. A variety of agencies, at both federal and state levels, enforces and interprets the law into regulations, and thus provides several mechanisms to translate their ideas into material effects. Agencies are often subject to "capture" by the industries that they regulate. Regulatory capture means that through a process of constant contacts agencies listen more to the viewpoints of the industries that they regulate than to other views (Phillips 1993).

Industry is another player working on establishing its own interests in the definition of the term reclamation. The mining industry plays a large role in both setting procedures and lobbying for inclusion of its ideas in legal definitions of the term. Working along with mining companies are electric utilities and steel production companies, who want to keep the costs of coal low to provide cheap fuel (Cook 1998). Bridge and McManus have suggested that industry is actively working to set definitions and perceptions. Industry creates a perception of sustainability by defining it through their standard business practices (2000). Industry is certainly aware of effects their actions have on the community and the environment, and industry representatives generally believe their choices are for the public good (Crowson 1998).

National environmental groups often play a key role in establishing these definitions. These groups work through lobbying Congress and responding to agencies draft regulations. However, their key power in establishing definitions lies in two other areas. Publicizing issues to shape public opinion and bringing lawsuits to shape the law are their main tools. Martinez-Alier studied the role of social forces setting the agenda for valuation and structure of economic damages (2001). Environmental groups willingly

take this path if processes and methods involved in current definitions do not comply with their goals.

With many different groups working to incorporate their interests into the definitions of reclamation, environmental conflict and a creation of greater disorder accompanies the debates. Local interests stand in direct confrontation with industry and government because local interests bear most of the cost of environmental degradation and improvement (Thompson 1999). These different interests become conceptualizations of nature, viewed differently by different groups at the local scale (Eden 2001).

Conflict is not just a matter of the powerful versus the powerless. If it were so, sides would align with the interests of the power structures, and there would be no reason to look into the construction of the idea (Hacking 1999). Those voices that do hold power still do not agree on one clear definition. Industry, government, and large environmental groups all have different wishes from the process. (This scenario often plays out in industry-versus-environment debates, with the government as a middle point.) Even assuming the government speaks in one voice is erroneous. Federal, state, and local levels of government have very different desires, and different scales of action. The interests of industry and government are often opposed as well. When they do work together, the unified approach to policy can intensify local resource dependence, to the detriment of local economic growth or diversification (Prudham 1998).

However, power does enter these conflicts and often plays a great role in selecting which ideas should be pursued. "The realities of our economy dictate that mountaintop removal must continue, and our collective conscience dictates that we must do it better," Governor Cecil Underwood of West Virginia, surrounded by 100 coal company

executives, said, “I will never apologize for fighting every inch of the way to protect your jobs from people who don't really care about your future” (Martel 1999).

The Environmental Impact Statement

> Nonetheless, the citizens of West Virginia and Kentucky appear to be justified in their concerns about the cumulative environmental impacts from mountaintop operations (Office of Surface Mining 1999).

The process of mountaintop removal mining, and particularly the process of dumping spoil (the waste or by-product of mining) into valleys and thereby filling streams, became more controversial and subject to greater public scrutiny. Because of this controversy, the agencies overseeing the various regulatory steps of mountaintop removal mining were charged with preparing an environmental impact statement, evaluating the impacts of mining and reclamation procedures and suggesting alternatives. The creation of the Programmatic Environmental Impact Statement (PEIS) was mandated by the settlement agreement in the lawsuit Bragg v. Robertson, Civ. No. 2:98-0636 (S.D. W.V.), and agreed to by the agencies who were clear about not conceding that the PEIS was required by the National Environmental Policy Act (NEPA). The work brought together the Army Corps), the U.S. EPA, the U.S. OSM, U.S. Fish and Wildlife Service, and the West Virginia DEP (“the agencies”). These agencies were charged with scrutinizing the various environmental laws that covered the procedure, namely the Clean Water Act, Surface Mining Control and Reclamation Act (SMCRA), and the Endangered Species Act, focusing primarily on the first two.

The resulting document was a programmatic environmental impact statement (PEIS). “Unlike a project EIS, a programmatic EIS is not a blueprint for actions on a site-specific basis. This programmatic EIS clarifies lines of responsibility among the

agencies to improve compliance and enforcement of the Clean Water Act (CWA) and the Surface Mining Control and Reclamation Act (SMCRA)" (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2005). The scale set for this document was the entire region where mountaintop removal mining occurs: including most of eastern Kentucky, southern West Virginia, western Virginia, and some of east Tennessee. The goals for this analysis were narrowly focused on the valley fill procedure, and not the other impacts of mountaintop removal mining. Additionally, all surface mining that placed waste or fill in streams was considered the focus of the report, not the narrower area of mountaintop removal mining. This interpretation expanded the scope of the document nationwide.

These limits and expansions resulted in a highly unusual document. Instead of looking at mining procedures and their environmental impacts, the PEIS examined governmental procedures and their environmental impacts. It focused on options that gave different agencies control of various parts of the permitting process, but did not design its recommendations around the procedures being permitted. At one point, such a document began to be created, but all substantive recommendations were removed from the final document in favor of the purely procedural ones. The legal and environmental situations had become so complex, that the myriad of agencies involved seemed to be saying it was beyond their abilities to be considering them, even in a ten-thousand-page document.

While this document went through extensive public comment, most of it negative toward both the Draft EIS and mountaintop removal mining in general, after the release of the draft version in 2003, the agencies concluded that the draft version needed minimal

changes and re-published it as the final PEIS, with a supplementary errata sheet (PEIS 2). Comments on the Draft EIS were received from all 50 states, the District of Columbia, and several other countries. The totals included 385 letters, 327 emails, 176 oral comments, and 83,095 form letters, largely urging more regulation of mountaintop removal mining or a ban on the entire method.

This PEIS assumes, backwards, that SMCRA was created to regulate all sorts of mining, including mountaintop removal and valley fill (PEIS 3), although these methodologies were not to be developed and implemented until the 1990s, while SMCRA was created through the 1970s. While several alternatives were considered, the agencies recommended a program that would require individual permitting for some sites, but overall allowed nationwide permitting for mining operations, for the efficiency that such measures would allow in agency action. This final PEIS followed two lawsuits over the correctness of nationwide permitting where the Federal District Court for the Southern District of West Virginia has enjoined use of the nationwide permits in its jurisdiction (*Ohio Valley Environmental Coalition, et al. v. Bulen, et al.*, Nos. 04-2129(L), 04-2137, 04-2402; U.S. Court of Appeals for the Fourth Circuit (*OVEC vs. Bulen*) and another in the Eastern District of Kentucky considering the same issue (*Kentucky Riverkeeper, Inc. et al. v. Rowlette, et al.*, CV No. 05-181DLB (E.D. Kentucky) (PEIS 9-10).

The PEIS included several scientific reports from government agencies that related to the environmental impacts of mining. The U.S. Fish and Wildlife Service found harmful levels of selenium in waters impacted by mining (U.S. Fish and Wildlife Service 2004). The U.S. Geological Survey found that streams around mines had large

sulfur concentrations; sediment changes; and damages to benthic-invertebrate communities, an indicator species for many aquatic communities, showing that stream chemistry and general habitat were affected. However, these harms to invertebrates were of similar magnitude to disturbances caused by urbanization and agriculture. This survey found valley fills to have a heavy impact on stream environments (U.S. Geological Survey 2000). A study commissioned on terrestrial plant species found that post-mine sites had very small vegetation (indicating stress), poor vegetation development, low diversity, high levels of invasive species, and low levels of native species. The study concluded that, "mining reclamation procedures limit the overall ecological health and plant invasion of the site." Additionally, the grasses planted on post-mined sites hindered the ability of native plants to reestablish themselves into the area (Handel 2003).

In other words, the environmental impacts of mountaintop removal mining are so disorderly and complex that it was beyond the scope of the government's most thorough planning process to determine how to fix them and still allow mining. In the face of this disorder, the recommendations of the PEIS effectively ceded all consideration of environmental impacts to the mining companies through allowing them to pursue nation-wide permits that cannot, by their scope, look at the specific environmental impacts of any individual mine.

Conclusions

> When the law fails to serve as a rule, almost everything ought to be suspected.
> Legal Maxim, *Bacon's Aphorisms* (25)

Land is not static and cannot be so. Over time and across space, land is in a state of constant change through natural, societal, and other forces. While the law seeks to

regulate land over both time and space, these movements provide a constant challenge. Not all changes can or will be easily seen, tracked or recorded, and in turn, these unseen changes subvert and threaten the legal order of things. The legal reaction to this threat is often a slamming of the doors, and shutting out of the system and rendering invisible people, claims, and ideas that threaten its stability (Shamir 1996).

A system has developed in which similar plots of land are treated very differently within the law. This differential treatment is one of the main factors leading to the birth of the contemporary property rights movement (Sax 2005). These rights are conceptualized as tying to both ideas of individual freedom and the seemingly eternal character of property in land. As these expectation are shaken, one result is resistance and a loss of faith in a government that is expected to protect these expectations. In Appalachia, this resistance is emerging in several ways. Citizens groups are emerging to fight the expansion of mountaintop removal mining and protect their own property rights. Coal companies are taking on more blatant political role and organizing to place candidates in public office who are sympathetic to their property rights. The disorder within the law has destabilized all expectations, with the result being a flow of disorder out of the law and into civil society.

Law has emerged as a force of disorder, rather than the order that it, by its own terms, is meant to represent. The fracturing of law not only spatially and temporally, but also in regulatory and procedural ways, has created a system where the law provides minimal guidance in setting future expectations. Applications of legal principles have fractured to the near-parcel level, individualizing applications rather than creating

societal rules. In response to this, mining has taken the only rational path – expanding operations as quickly as possible in this time of chaos, rather than gambling that a more settled system will allow them to continue.

CHAPTER 7

"WHY DOESN'T A LANDOWNER HAVE A LITTLE SAY?": PRIVATE PROPERTY AND THE CONSTRUCTION OF MATERIAL CHANGE

> "Why doesn't a landowner have a little say over what he wants to do with his own property?"
> (Hodel 1999), anonymous, statement at public meeting over mining permits, Logan County, West Virginia

Land is bought and sold as a commodity regulated by markets that attempt to incorporate physical properties, improvements, location, and restrictions to reflect a final price. For undervalued properties, market bidding works as the mechanism to raise the price; and overvalued properties will sit unsold until either the price or the markets change. However, these markets have a tendency to prioritize some values while reducing the impacts of others. Markets incorporate a variety of social values that have little to do with the land, such as fashionable locations, and serve a variety of public policies, such as farm subsidies. Each of these incorporated preferences can either inflate or deflate prices far beyond use values. Generally, economists credit markets with the ability to correct these flaws with a market readjustment. Recent actions in the property markets have highlighted this tendency for fluctuation based upon values and functions removed from the markets themselves.

Within the Appalachian coalfields, markets have ceased to regulate land *as land*. The dominant value of land in this region is that it holds coal—trillions of dollars worth of coal. Through a variety of mechanisms, this single value has risen above all other

values that may be tied to resource land. This devaluation was achieved through a dismantling of traditional markets and separation of tiers of private ownership. The Appalachian coalfields are linked into the global systems of capital, which drive the sale of coal and the companies that mine it, but internally operate in a different manner. Rather than being an odd exception, this pattern of local difference is the rule.

This particular form of land ownership has been enabled by a set of legal structures of property ownership, which overlap and intertwine in multiple ways. Karen Bakker and Noel Castree have decoupled parts of the linked processes surrounding property and resources, showing that their operations do not always work together in the same way (Bakker 2003: ; Castree 2003, 2001). Bakker's (2003) work on water markets untangles a web of complex economic and environmental changes, showing how different forces such as commercialization, privatization, and liberalization can work independently of each other. This chapter follows her work by separating the ideas of privatization, commodification, marketization, and valuation. Castree (2001) shows how capitalism not only uses nature, but produces certain types of nature in its own image creating a fully joined entity that is both nature and society. The mainstream view of private property is that the land is first commodified – made legally and socially into an entity capable of being bought and sold. Castree shows how this process is not necessarily the pattern that happens and shows the detailed particularities that can exist. Both Castree and Bakker call for specificity in examination of commodification and other economic processes that link humans to the environment (Castree 2003: ; Bakker 1999). Commodification of nature is the process whereby an entity ceases being "out there," existing on its own right, and becomes something separate and able to be subjected to

human control through an assignment of economic value. Through the process of mountaintop removal, a particular type of nature is produced from a particular type of commodification. The material results of this process include the barren post-mining landscapes and the social and economic devastation in the communities near them. This chapter will tease apart some of those processes as they operate in the Appalachian coalfields and show the systemic collapse that has happened because of the overreliance on a single extractive resource—coal.

These problems in the operations of property are rooted in the political economic structure that provides the rules and relations that we incorporate into the institution of property. In Appalachia, nearly all the land is privately owned, although resource land is often owned in different manners than non-resource land. The way this property is structured, encouraging both extensive and intensive land use for the extraction of coal, has worked to shut down the markets for land. Without these markets, and their value setting functions, a dual system has developed of insufficient government revenue for service provision and a locked land market, both of which work together to close the door on further economic development or environmental protection in the region.

This chapter will explore the creation and operation of this property system, in pursuit of Bakker and Castree's call for greater specificity in the examination of the processes of economic and environmental change. First, it examines the creation of the powerful American ideals of private property, which have shaped the development of the forms of ownership that appear in the Appalachian coalfields. Second, it unravels the specific ideas meant by commodification and marketization, in preparation for an application of these processes in the particular historical geography of contemporary

Appalachian property ownership. It then examines resource lands as a different type of property, prone to concentrated ownership. Following that, it explains the legal process by which these lands become treated as a commodity, and some problems with that conceptualization. Next, it applies these concepts of privatization, marketization, commodification, and marketization in the Appalachian context, showing the particular and material ways in which these patterns work. The chapter then moves to the problems of concentrated landownership, as conceptualized as an interactive feedback loop leading to further concentration, environmental degradation, and economic underdevelopment. The specific private property regimes of Appalachia have resulted in a market failure, where markets no longer treat land as land and, in doing this, not only fail to set exchange values for land but also remove use value from the land itself.

Ideas and ideals of property

Private property in the United States ties closely to the American ideology of individualism and self-determination. In many cases, a person displays her worth as a citizen to society through her control of property, as illustrated by early American requirements that allowed only landowners to vote. Property also ties to strong ideas of freedom, both marking its owner as a free person and providing the financial security to enable free action in other areas. These ideas are rooted in the Enlightenment ideology of freedom and equality (Rose 1996), that adheres to the individual (Ellickson 1986). This libertarian model holds that each person has equal capacity to make claims, not that each person is equal in means or ownership. Thus, it is a moral and not material power that is shared in this freedom (Benson 2002).

These views of property often equate the economic freedom of the markets with political and personal freedoms. In an economically free society, all people are equal in holding the preconditions for property ownership, and the market represents voluntary cooperation of individuals and creates a dispersal of economic power. Ideally, this market freedom results in a separation of economic power from political power, because people with less economic might can band together on the markets for larger impact (Friedman 1975). Additionally, private property both represents the value that its owner has within society and creates that value, though becoming part of the owner's personality (Bell and Prarchomovsky 2005: ; Radin 1982).

These ideals of worth, independence, and freedom of private property are strongly present in the Appalachian coalfields. Most residents hold ownership of a house with a small parcel of land to be the ideal form of citizenship, harkening back to the early American ideal of the yeoman farmer. Appalachia displays the aspirational aspect of property, where the institution of private property is revered and people often advocate policies that do not reflect the property interest they currently have, but the interests they hope to have one day. In the time of the coal company towns, mining companies seldom had to worry about a market for the town they built, which was suddenly in the middle of nowhere after the closing of the mines, because the miners eagerly took the opportunity to own property and purchase homes. (One such coal camp is shown below in Figure 7.1). This movement into the domain of property-ownership, even over a nearly valueless piece of property, equates with being a worthy citizen.

Figure 7.1: Aerial view of Coal Camp at Montcoal, showing railroad tracks, church, and homes
Source: (Eiler 1995)

What must be added to these considerations is that property has a profound element of power within it. Most decisions made by legislatures and courts about property are inherently social, and as such, balance interests between competing property claims (Underkuffler 2000). Protecting the property rights of one person inevitably results in denying the property rights of another (Underkuffler-Freund 1996). Often these decisions are made in ways that enforce power-laden policy decisions, such as those Joseph Singer has chronicled in his discussion of a wide range of American Indian property claims and disputes (Singer 1991-92). This balancing of public policy against

and within property rights happens in most cases, although it is often not explicitly treated as such by the courts (Underkuffler 2004: ; Freyfogle 2006). Eric Freyfogle states that "private property is a form of power over people, not land" (2006: 12). Property is coercive, backed by the power of the state, and is an institution that requires broad exercise of public power (Freyfogle 2006). I posit that the property relationship is not over people alone, but also reflects power over the land itself. Power over property includes, as is illustrated with mountaintop removal mining, the power to shape economies, communities, and politics. Additionally, it includes the power to change entire ecosystems, to remove biomes, and to shift the flow of waters in ways that reverberate well beyond the borders of the property controlled.

The coal mining landscape is one where power is written on every hill and stream. The land undergoes material change, inherently linked to the processes of commodification and accumulation (Castree 2003). Control of property can result in landscape change that affects people and creates an environmental display of social power, manifesting material changes as a result of the power aspect of private property.

Privatization and commodification of land

> "This is not public property that is being mined. It is privately owned, allowing owners to do with as they wish."
> (Silva 1999), statement from a sophomore from a coal mining family at Marshall University (Huntington, West Virginia)

The story of property in the Appalachian coalfields is the story of private property, with very little land owned or controlled by the state or other entities. Generally, private property is seen as taking on this character through a process of, first, commodification followed by marketization. However, this case will show that privatization of property does not necessarily operate through a conjunction of

commodification and markets. Commodification has developed in a particular form, due to the value-bearing characteristics of rural resource land. It evolved to allow the separation of land from its valuable qualities both horizontally (as acreage) and vertically (through surface and sub-surface rights). This commodification has enabled the dismantling of markets for land, through a separation of the valuable parts of the land from the surface. These valuable minerals enter different markets than those that traditionally regulate exchanges in land. Eventually, these split values—land and minerals—are subsumed into other markets, such as those managing the sales of companies and businesses. Through this process, much of the land in resource areas ceases to be treated *as land* by the markets.

Privatization is the process through which one gains legal title, and thus exclusive control, over an object or entity. Most frequently, an entity becomes privatized as part of the commodification process, the claim of right and ownership is expressed through the offer of sale. Privatization can also occur through other mechanisms, such as physical possession and declaration, where one uses the land and publicizes their ownership "as against the whole world," meaning that their claim should be recognized, for it is superior to all others. For private property, ownership vests in individuals or corporations (legal individuals), rather than being held as a commons or by the state, which while still commodified, have very different alienability characteristics. The processes of privatization and commodification are chronicled as a key part of primitive accumulation, and are seen today in areas as diverse as water (Bakker 2002, 2003: ; Swyngedouw 2004) and genetic resources (Juma 1989: ; Kloppenburg 1988).

This commodification itself works in multiple ways, which change over time and space, and interact with multiple other commodities (Bridge and Smith 2003). The process of becoming commodified, as well as the commodity form itself, is a social relationship. These social processes achieve a re-orientation of the commodified object, shifting focus away from its material qualities and toward generation of profit as part of the flow of capital (Frow 1997). Property represents relational wealth, based on the scarcity of the object owned and as this object changes, so do the rights linked with it (Lametti 2003). With land, the result of these processes of commodification is a property ownership regime. These regimes do not determine environmental outcomes, but rest in particular times and places, which shape and are shaped by property regimes and socio-environmental outcomes (Mansfield 2001). Additionally, as ideas of ownership of the commodity-as-property change, the characteristics of ownership change as well (Macpherson 1978).

Once it has been commodified, a private owner can buy or sell the property. This exchange is mediated through the institution of markets, which serve as the justification for privatization. In turn, privatization also becomes justification for the markets (Haughton 2002). Markets are the mechanism that regulates private property and are supposed to be able to prevent abuses of the system. They are the point where a willing buyer and a willing seller come together to set a fair value on the item owned, which should, ideally, reflect that property being put to the best and most efficient possible use. Importantly, it is this churn of the markets that is supposed to set the value for the commodity. While each commodity will have an intrinsic use value, this use value is eclipsed by the exchange value set by the markets. The central argument of this chapter

is that in the context of Appalachian resource lands, these markets have completely failed to set exchange values for the lands they are meant to regulate, but, even more extremely, they work to remove the use value from the land itself.

According to legal and economic theory, private property and markets, are supposed to work hand-in-hand to support and defend each other, within a logical mutually constructed and self-regulating system. The argument, based in neo-classical economics, assumes that humans are rational utility maximizers who will seek immediate personal gain regardless of group or long-term effects (Demsetz 1972). A private owner, as a utility maximizer, will protect the value of his or her land, and work in ways that minimize degradation of long-term worth. However, if the land is held in common, each degrading act gives benefit to the person who performs it with the costs borne by all. Therefore, any commonly owned land or resource would be degraded. Exclusion is the key to maintaining any commonly held resource, and this privatization gives the new owners the incentive to maintain the now privately held resources (Demsetz 1967). Our system of property law centers on a concept of rights–rights to use and rights to exclude—and fulfills the goal of creating a class of owners with an interest in maximizing the utility of their own property through exclusion of other users (Macpherson 1978). Markets provide societal regulation through valuation of land for exchange, thus creating realms of fiscally viable land uses. The markets focus on the economic value that can be extracted from the property's use; in this the property itself takes on a background role and the core of the value is created through the human interaction with it (Barzel 1997).

In the context of Appalachian resource lands markets have failed to perform these regulatory functions over the land as land, because (at least) three separate items are being commodified, but these commodities do not equally enter the markets. First is the coal itself, which is bought and sold on national and international markets, primarily as a fuel for electric power generation. The demands for coal on these markets are the major force in determining mine openings and closures, although these forces are often entwined and confused with environmental regulation (Arch Coal to shut down Dal-Tex operation 1999). Second is the land, which, as I will show, is not placed on an operating market, but rather one that is highly flawed and often close to fictional. Finally, for the companies that own the land and/or mine the coal there is another operating market, with smaller companies being bought and sold by larger companies. Therefore, markets of various sizes and complexities surround the situation, but they fail to regulate the land—the one commodity into which some sort of social or environmental protection could be incorporated. Markets in land are impacted by one inherent flaw. Markets are meant to work through the balancing of supply and demand, but with land, supply is inelastic, there is a set amount of land that cannot change under most circumstances[20]. Therefore, the markets only reflect demand, and may not lead to the greatest economic efficiency (George 1975). As the healthy operation of private property is tied to the healthy operation of markets, a failure of the markets will have material effects.

In the realm of private property, in most locations, the markets play a key role in promoting and assuring efficiency. Here, the markets are linked with and guided by property law, which ensures that the necessary conditions of universality, exclusivity, and

[20] The raw amount of natural land is not an absolute limit, and never has been. Large parts of The Netherlands are reclaimed from the sea and the Tokyo Airport is built on a massive pile of fill dirt. Still, these land creations are highly expensive and rare.

transferability will exist. Universality states that all resources are owned, or at least are ownable, except those so plentiful that ownership is an irrelevant idea. Exclusivity sets the rules for whom or what the private owner can and cannot keep away from his or her property. Transferability assures that the owner can hand that property over to someone else. These principles establish the legal preconditions for the markets to work (Posner 1975). Where these principles work together, the result should be a maximization of land use and, ideally, this should be possible with minimal legal regulation (Demsetz 1972). The market is supposed to incorporate a wide variety of variables and create the optimal price for any good which flows through it, promoting maximum efficiency (Ackerman 1975: ; Coase 1960). However, it is important to note that "the nature of the property systems affects the way prices are determined" (Ackerman 1975: 52). Thus, the rules we, as a society, set for property ownership have profound impacts on the ability of the markets to regulate property itself.

In the past, private property frequently has been linked to resource misuse and overuse, as with the plowing of the Great Plains and the resulting Dust Bowl of the 1930s. These failures are linked to the individualizing nature of private property, which does not adequately incorporate either ecological understandings or public interests (Freyfogle 2006). However, this individualized control is also credited with creating the necessary incentives for good stewardship (Demsetz 1972). In the Appalachia, property in land currently is linked to resource misuse and overuse, through mountaintop removal coalmining. Through an incomplete commodification of nature, the only values represented by the land are the exchange values of the coal that they hold. This coal is freely extracted, bought, and sold and is surrounded by fully operating markets.

However, the process of extraction through mountaintop removal is one that strips the land of nearly all other current and future values. The land has been separated not only from its value, but also from the institutions, such as markets, that are meant to regulate its use. As a result, what follows is the social and ecological devastation of mountaintop removal mining, and the region appears to be leading down a similar path to the Dust Bowl disaster of the past.

Private property and concentrated ownership

Once, people conceptualized the ownership of property through the Blackstonian ideal of physicalist dominion, where an owner has complete right of control over the object of property (Blackstone 1979). This dominion was a full package of rights by a single owner, in perpetuity, over a territory that was horizontally bounded but vertically boundless, in which the owner has absolute rights, privileges, and powers (Ellickson 1992-93). In this manner, the property relation was conceptualized as a relationship between the subject (the owner) and the object (that which is owned.) The key to this property ideal is the idea of exclusivity, where the owner has the sole decision-making power, with a special emphasis on the ability to exclude other people and influences from the property—an idea that still has powerful purchase in today's world (Rose 1998). Gradually, this idea (which has never fully faded) began to lose explanatory power, as conflicts over property that came to the courts were conflicts between people, not between people and the land. However, the dominionist view of property still emerges today, most notably in the work of Justice Antonin Scalia whose jurisprudence marks property as "a concrete, objectively knowable and immutable legal barrier which marks

the boundary between protected individual interests and the permissible exercise of government power" (Underkuffler 2004: 2).

Next, the Hohfeldian ideal of property rights emerged; this ideal marked property as a social relation (Hohfeld 1919). The dominant metaphor for the property ownership system is as a bundle of sticks, with each stick representing a different part of property ownership (Cardozo 1928). A. M. Honore compiled the most referenced list of these incidents of ownership: possession, use, management, income, capital, security, transmissibility, duration without term, prohibition of harmful use, and liability to execution (1961). Each of these ideas describes a relationship between one subject (the owner) and another subject (a neighbor, heir, etc.). Honore dismisses any agency of the object (the thing owned), except as it impacts the social relation of ownership (1961). Property, in this view, is a relational idea. Within the law, property is held "as against the defendant" and is considered *in personem* rather than *in rem*, primarily between people and not a relationship between a person and the thing owned. This relationality has a physical and performative dimension of acts that raise ones own claim while subordinating the property claims of others (Benson 2002). This view of property as a social relation has created the potential for much broader and deeper understandings of the institution. Property interests are inherently interdependent, as one property interest by its nature relies on other property interests, both public and private, to define both its being and its function (Underkuffler 2000).

The ideas and policies that shape the institution of private property sit at the heart of these problems of determining the nature of property. Rural land is frequently owned in large holdings. Large landowners have the power to make usage decisions that have

economic and social effects on rural communities. These characteristics make rural land, and particularly rural resource land, an ideal tool to understand both the social and environmental characteristics embodied in the ideals of property. In the US, we often hear about clashes over public property in the West. Scholars have noted the concentration of landownership in federal hands in the American West for its role in the Sagebrush Rebellion and today's Wise Use Movement (McCarthy 2002: ; Marzulla 1995). This land is not privatized, but rather is owned by federal or state governments. Proponents of the Wise Use movement treat state ownership as a form of private ownership, placing the state in the position of a competing landowner. In these areas, the United States government is both the largest landowner and the largest landlord. Decision-making is removed from the locality and placed at a distance in Washington, D.C. This distance enables the public ownership of land to resemble the characteristics of private land, when viewed at the local level—largely because local voices are perceived as not being loudly heard in the decision-making processes.

Western land is not marketized in the traditional manner, because it is not sold away from federal ownership; but rather users are granted leases for grazing, timbering, and mining. Given the traditional conceptualization of property as a bundle of sticks, this arrangement places the commodity usage rights for land on the market, while retaining long-term control away from the market's actions. Leases become a market themselves, but one with limited temporal duration, removing the permanence from landownership, and through that, the right to make certain decisions that may affect the land over the long term. This concentrated ownership, existing separate from markets, has caused violent protest over social consequences and economic development.

In the Appalachian East, similar percentages of land are also held in concentrated ownership, but by private individuals and corporations rather than by state and federal governments. While there are some federal parks and forests with the Appalachian coalfields, these minor tracts have little relation to the growth of surface mines. The clashes in this region primarily are between different private landowners, whether owning rights on enjoining property or property that exists in the same two-dimensional plot while stratifying along the third dimension of mineral rights, and also between private landowners and the community at large.

In both cases, East and West, the land has been removed from the traditional land markets, however through different mechanisms. Eastern land speculators began to purchase mineral lands and mineral rights beneath the land in the 1800s (Rasmussen 1994). After an initial wave of acquisition, these purchases have been gradual and ongoing, continuing today. Speculators consolidated their holdings into land holding companies, which were often purchased by mining and oil companies, railroads, or larger holding companies (Rice 1985). The land itself never re-enters the private markets, rather companies owning the land are bought and sold. This sets their exchange and valuation at a remove from the material existence of the land. While it is technically possible for a company to sell off its landholdings, this rarely happens. The markets have ceased to fulfill most of the purported regulatory functions of markets, to set values and allow exchange. Some markets are operating—coal is bought and sold on the markets, as are the companies that mine it. However, the markets for coal land have been disabled, and this disabling has drastic impacts not only for land use and land cover change, but also for communities, in the Appalachian coalfields. In turn, these impacts shape

political and economic power structures, leading to uneven development. Thus, a particular type of private ownership structured at a distance from the traditional land markets has evolved in the Appalachian coalfields.

This private ownership pattern has impacts on land use and land cover change, as it enables land uses that are both more intensive and more extensive as they consider only one set of the values contained in the idea we call land. It privileges the extraction of coal as the most economically valuable part of the land. In turn, this devalues other aspects of the land, whether providing social or ecological functions. This is Neil Smith's 'production of nature' at its purest, where land (the commodity) is separated from its non-commodity properties and becomes solely an object of accumulation (1984). The land ceases to be treated as land, becoming merely a spatial repository for the coal resource.

The decision-making for extractive land use is made considering the only part of the land owned by the private extractive landowner—the mineral coal. Other values contained as part of the land are not part of the land use equation because they are owned by another person or entity. In Appalachia, these other values are many, but notably include agricultural use, residential use, forestry, soil preservation, watershed management, wildlife, and a variety of other social, economic, and environmental functions. The justification for private property ownership in the environmental arena is that it enables sound environmental decision-making, because the owner will balance these multiple uses both now and in the future to determine the most rational economic use of the land. Rational economic use does not allow for total destruction of the land and its productive capacity as the potentials for large short-term profits must be balanced

against long-term profits and potential future value for land sales. However, with the decision-maker only owning one of the proverbial sticks in the bundle, it makes rational sense for them to maximize the value of that one stick and ignore the others as someone else's problem. In this case, the property mechanism has enabled mountaintop removal coalmining, a method that economically removes all the minerals from the land while removing the land from foreseeable future economic or environmental use. The land loses its productive capacity.

Because mountaintop removal mining completely remakes the landscape, thereby destroying hydrologic systems, compacting the soil, and replacing mixed forests with grassy areas, the result of this mining method is the destruction of the ecologic production capacity of the land and, generally, removal of the land from most economic use. It cannot hold trees for timber or be farmed for agriculture. Subsidence makes it undesirable to house buildings, and the spread, rural nature of the region makes it unlikely that built development will happen in remote areas. It can hold non-native grasses, leaving a small economic chance for cattle or sheep. This removal from economic use, in turn, pulls more lands out of the markets. The lands are destroyed and discarded.

In turn, these property regimes have led to a massive expansion in the control the coal and energy industries have over land in the Appalachian coalfields, and the shape of their impacts on the land in the form of mountaintop removal mining and the changes it causes to the landscape. With enhanced control of land comes greater control over parts of society, whether economic, political, or other areas. Additionally, as land becomes concentrated in large holdings for coal production, concentration enables the

development of larger and larger mines. In the mid-1990s, mine size took a great leap forward with the advent of mountaintop removal mining. The mines currently grow as large as 20,000 acres, creating the first eastern mega-mines[21]. These are not issues that the mere insertion of operating markets can solve, but rather one where the absence of markets has created a structure where it is simply too late for any promise of equalization that they may offer. These patterns of ownership and control are visible in the act of mountaintop removal mining and enabled by the existence of privatization without marketization.

Concentrated ownership is a necessary precondition for mining on this massive scale. The lack of markets deflating land prices makes it profitable. The lack of enforcement of environmental regulation makes it possible. Only time will tell if the land will eventually re-enter the market; but, if it does, it re-enters with much of its value and productive capacity removed. Where mining has been completed, the lands are generally still in the vegetation-growing periods that follow federal reclamation requirements. However, if they do re-enter the market, as rural lands useless for farming, timber, or native wildlife, their values will be eliminated by their mining history. The removal from the markets led to the land no longer being treated as land because the value placed on preserving future economic capacity is stripped from current decision-making. This, in turn, led to the massive expansion of mountain top removal mining and the destruction of further land-value and land-function, in exchange for the extracted value of coal.

[21] Mega-mines first appeared in the western states, starting as large-pit metal mines. This technology soon transferred to coal mining in the Powder River Basin where large, thick seams of coal sat close to the surface, before finally migrating east into the hilly terrain of Appalachia.

Property valuation

The idea of property as a social relation has long been a major area for scholarly study. However, with the birth of the environmental movement and ecological science, the idea of property as a *pure* social relation is being called into question because it removes all agency from the object that is owned. Several scholars have suggested ways to re-incorporate the object into the institution of property, while still maintaining its characteristic as a social relation. Myrl Duncan adopted these conceptualizations of property to create a more dynamic institution that is both spatially and temporally flexible (2002). Carol Rose and Joseph Sax, in illustrating dual public/private character of social relations, suggested basing a conceptualization of property in water as an addition to land, to show its fluid and changing characteristics (Rose 1996: ; Sax 1985). Tony Arnold offered a more thorough re-working of the institution of property by suggesting a conceptualization as a web of interests rather than a bundle of sticks. This view of property incorporates both the physical characteristics of the thing owned and ideas of interrelationships through a web metaphor. This web is a congregation of social and physical relationships centered on the object owned. If any of these relationships change, all change—picture pulling on one strand of a spider web (Arnold 2002). David Lametti offers another conceptualization, which highlights the nature of property as a social relation while keeping the object of ownership at the center, by showing the relations happening through the physicality of the object (2003). All of these new approaches create a more satisfying, and more ecologically sound conceptualization of property.

Property law overlays dual institutions of private property and markets and sets the rules for the relations between subject and object. These institutions are assumed to work together to regulate ownership in land, and furthermore, assumed inseparable.

However, these two are separable, and have been separated in the land-ownership regime in southern West Virginia and eastern Kentucky. The region has evolved a history of intense privatization with minimal market regulation. This circumstance has empowered the development of King Coal, and is currently a major force in fueling the expansion of coal mining to extremely large-scale sites, through mountaintop removal mining. In turn, this coal presence furthers privatization without marketization. If the markets are not filling this function, then something else must do so. In the case of property, the law takes on this duty, providing the type of regulatory control that enables extraction through capitalist operations in the commodification of nature.

Property law is a process of constant change, shifting and flowing across courts, legislatures, and jurisdictions. American property cases began as a set of common law cases imported from England. These English cases were developed over a thousand years of local, royal, and ecclesiastical decision-making, establishing property law as one of the oldest American legal traditions incorporating a variety of societal values (Rose 1996). While legislatures codify some property laws into statutes, most regulations of property are worked out on a case-by-case basis in the courts, inevitably balancing the conflicting property rights of the parties (Underkuffler-Freund 1996). This system means that every property dispute that makes it into the court system has the potential of shifting property law in one or another directions, confirming or shifting power structures both individual and collective (Underkuffler 1990-91). Additionally, these courts sit in a variety of jurisdictions, both tiered and lateral, which causes new ideas in law to flow and move at different rates, and allows different ideas to emerge regionally.

This pattern of laws surrounding property enables the markets to operate as a regulator of the now-commodified real property in land through the force of setting values for property based on the potentials to which land can be used (Duncan 2002). Land use that complies with the highest and best use recognized by the law would not only result in immediate profits, but will increase the value of the land over time, as it now can be sold to another with that highest and best usage attached. However, after operating under these ideas for several decades, valuation has turned out to be not quite that simple. Some commonly held resources have not been degraded and other privately held ones have (Burger and Gochfield 1998). A value placed on land often depends on the larger-scale governance of the situation (Sax 1993). For example, dealers in carbon markets are starting to issue credits for vegetative carbon sinks, creating a new value in one specific land use. Through these processes, contemporary and changing community values and ideas are incorporated as background to the political debate (Wilson 1999). The web of laws overlaying property ownership provides a key part of this governance, as it forms from a legislated community preference for certain land usages.

However, real property in land has always had a problem with pure market valuation. People imbue their own property with personal or sentimental value that may not be reflected in markets, although it sometimes is within court decisions (Radin 1982). In turn, this legal and market-based regulation of land is one of the major ways our society commodifies nature. This commodification is incomplete at best, but the Appalachian case is far removed from the best-case scenario. Lacking market-based regulation, the environmental values and services tied to the land have been removed from all market-based consideration. When placed in conjunction with the breakdown in

legal and regulatory control discussed in the previous chapter, nothing and no one is providing protection for the biophysical and material qualities of land as land.

The law only regulates part of the many linked values, functions, and services that are encapsulated in a parcel of land. In most places, property law works to keep the markets operating, but in Appalachia, these same rules operate without working markets and produce quite different outcomes. Instead of minimizing land degradation, they encourage it. Instead of setting valuation over the long term, they value property for its immediate bounty of resources. The efficiencies produced are narrow and channeled along particular pathways, and creating wealth for the property owner of the coal and not for any other property owners of the land.

Land: problems of valuation and markets

> [Coal is] the only game in town.
> Madison lawyer Harry Hatfield (Staff writer 1999)

Given a history of almost total privatization, researchers often use real property and estates in land as the basic example of what has been privatized. However, private ownership of land has never been total. The forces of privatization work somewhat differently for land – because land's physical properties and linkages cause it to at least somewhat resist commodification, and landowners are limited in what actions can be taken to or with their land by legal doctrines such as private nuisance and public regulation for environmental or health issues.

Land—and particularly rural land—serves environmental, economic, and social functions that are yet only partially commodified. As Erik Swyngedouw illustrated with water, land is a socio-natural hybrid that shares biophysical characteristics with political and cultural meanings (2004). Land serves as a sponge to absorb floodwater and other

run-off. It serves as the site for trees that trap carbon. The private ownership model is only beginning to incorporate these services. These multiple materialities cannot fit a single model of commodification (Castree 2003), and as such are often incompletely incorporated into law and ownership structures. Often, this attempt is carried out through a greater fracturing of the holistic estate into multiple parts that can be owned or treated separately. For example, water law has developed a complex set of duties and liabilities that accrue to a landowner who either uses the water or has property that abuts it. This fracturing of the land commodity into multiple parts itself creates new social and material effects, and interaction between these and the new commodities that they produce re-define and change many parts of the process.

The fracturing of the holistic estate in land has material consequences for the residents of the coalfields. Actions on one piece of land flow across borders, as a *Charleston Gazette* interview with Carlos Gore of Blair, West Virginia, showed, "You put a pond and a valley fill in my hollow. I had two streams running and I had well water. Now I don't have anything" (Ward 1998). Streams and wells form part of the value of rural land, providing water for homes and irrigation as well as recreational and aesthetic value. Land use choices place additional burdens on property owners, many of whom must pay money to mitigate the overflow effects of mining operations nearby: "Many tons of sand and gravel are now piled here due to dredging the creek. Heavy rains washed the subsoil down from the mine and filled the creek several times. Homeowners had to pay for the dredging and the water treatment systems," (Pennington 1999). This clash of rights becomes much more basic as the right the mining company has to use its land comes into direct conflict with the rights of neighbors to live on and hold their land,

“I've got a right to live there,” Gore said. “I lived there before the mountaintop removal mine came in, and I'll be there long after it's gone. I'm going to outlaw this strip mining until you learn how to do it right” (Ward 1998). In making choices about which land use is legal, courts and legislatures set a pattern of valuation for some land uses over others, and in providing the mechanism for valuation, the (broken) markets privilege some land uses over others.

However, the law, following the pattern of the markets, has yet been unsuccessful in fully tying the environmental services that rural land provides to people elsewhere (often at very remote distances and in small amounts of each effect per parcel) into its sales price. Rural land is often vastly undervalued because buyers and sellers alone, without government regulation, cannot represent its full ecological value. These environmental services and bio-physical processes are not produced commodities, but instead treated as commodities by a market that fails to fully understand and incorporate them, leading to the underproduction crisis as the second contradiction of capitalism (O'Connor 1988). As resources are used in nature, their biophysical and social characteristics change. Social, cultural, and economic choices made about these natural items also create changes as they make distinctions between different bio-physical processes (Mansfield 2003). Additionally, the complexities in the process of commodification of nature produce a series of contradictions, particularly as applied to mining land where the depletion of mined resources combined with changing choices in the technology of extraction is often expressed in social conflict in the surrounding areas (Bridge 2000). Residents in the communities surrounding the mines are unhappy because

they see this system under-valuing their own property rights while privileging the property right to mine the mineral estate.

Market valuation of resource-lands in the Appalachian coalfields exhibits several flaws in valuation. Traditional models base their valuation methodology on the assumption that most of the value will be tied to the surface of the land. However, the majority of rural Appalachian lands get their value from the coal they hold underground (along with other resources such as oil, and gas). This method of valuation leads to another set of problems as natural resource lands are owned differently from other types of land[22]. Often the minerals will be owned by a separate entity than that which owns the surface. This mineral estate has dominance over the surface estate, which means that since what lies beneath the land is worth more than what sits atop the land, the owner of the minerals gets to make land-use decisions. If a conflict arises between the farmer who works the top of the land and the mineral-owner who wishes to strip-mine it, the land will be mined. This places the surface owner in the position of being assumed to own the value, and being taxed accordingly, while not actually owning the value or being able to make decisions based upon it. When mining happens, technically the surface owner's rights remain unchanged, but the shape of the surface and its values change, often completely.

This market valuation becomes important in our current property system, because there is nothing inherent in property rights that prohibits wasteful uses, contrary to the early property ideas held by Locke (1988 [1690]). One who holds the usage right to land can use it in any way they see fit—they can waste or even destroy the land, as long as no

[22] Timber lands follow this pattern as well – although timber sits on the surface. The main difference is that timber is more regularly taxed and reflected in the valuation of the land. Oil and gas lands follow the same pattern as coal lands, although their extraction tends not to cause as much surface disturbance.

contravening right held by another person enters the picture (Benson 2002). In the case of mountaintop removal mining, the costs and benefits are separated and held by different parties. The mine operator has the incentive to reap the profits of removing the coal from the ground immediately as their future interests in the land are limited to the mineral estate. Wasteful usage will not affect the mine operator's profits, but rather devalue that land's future potential, the cost of which is reflected in the market when the owner wishes to sell the land. If the mine operator owns the surface, this is not a problem because with already deflated rural land values, this price differential is a minute fraction of the value of the coal. If another person owns the surface, this is not a problem to the mine operator, because the value of the mineral estate has not been impacted, only the surface, which they do not own.

After miners remove the coal, the landscape and watershed change drastically. Forest cover is gone, mostly replaced by post-reclamation low-soil grasses. While there is debate over the values of the sites pre- and post-mining, the lessened biomass is enough to qualify under some definitions of degradation (Johnson and Lewis 1995). Much of the time, this process removes most value from the surface, removing future uses such as timbering and farming through soil compaction and inadequacies in reclamation processes. Land that has undergone mountaintop removal mining faces the removal of many feet of bedrock in addition to the removal of soil and vegetation. Because of this, reclamation is especially difficult on these parcels and reclaiming them to the soil depth and quality needed to return most lands to their original timber-bearing state is cost-prohibitive. While advocates claim the flat land is worth more for development and building purchases, these mining tracts tend to be located in remote

areas where building development has no market without access to the traffic and customer bases available in more urbanized areas. Thus, most reclaimed land is hydro-seeded with non-native grasses and termed "fish and wildlife habitat," a disfavored land usage with little value for the surface owner (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003). Additionally, most mining lands in West Virginia have a long history of out-of-state ownership (Rasmussen 1994). As tax-rates are low on these lands, absentee owners of surface lands have little incentive to put the lands to economic use following mining. Consequently, the local citizens do not see much of the economic benefit of these mines, as profits leak out of the area. As most economic usage of the lands is removed, local citizens also see little economic benefit from the lands after mining, either through job creation or through taxation.

In 2000, West Virginia had nineteen pending permit application for mountaintop removal mines, thirteen of which requested exemption from the law's requirement to return the land to its approximate original contour. According to SMCRA, this exemption requires that the changed land be put to a higher or better use than the original land held. Of that number, four permits covering 5,119 acres proposed a post-mining land use of fish and wildlife habitat and recreational use. Another three applications covering 2,154 acres proposed rangeland use. Under both federal and state law, according to the Office of Surface Mining, these land uses are not seen as adding value, but rather removing it. An additional four applications covering 4,543 acres proposed a commercial woodland use. While forestry is a preferred post-mining land use, disputes rage over exactly what procedures the mine operators need to follow to assure this usage is viable, with new regulations requiring tree planting, soil replacement, and other costly

procedures that were not required to be performed by the mining operator under previous legal interpretations. Only one permit had a plan to put the land to multiple uses and one planned industrial or commercial development, which fit the higher and better use standard under nearly all definitions (Ward 2000).

Some mines have been put to economic use after mining finishes. One site, in Fayette County, West Virginia, is home to Mountain Greeneries, a commercial nursery that sits on 55 acres of what was once a mountaintop removal mine. This business was offered very friendly lease rates, with payments of $1 per year for the first five years, and fair market value thereafter (Regan 2000). Mountain Greeneries has survived and expanded (Regan 2002). However, the program designed to promote economic development on these sites has floundered for years from a lack of funding (Hohmann 2000). However, "according to state Division of Environmental Protection records . . . only 11 percent of land mined in 784 surface mining permits in Logan County has been completely reclaimed. Moreover, less than 1 percent of the surface-mined land in Logan County has been used for industrial or commercial post-mine land uses. Another smaller percentage (less than 1 percent) has been used for "public service" (Radamacher 2000). Prisons are one particularly popular use to which many post-mined sites aspire. Currently a new state prison has been built upon a mine site and several private prisons have been proposed (Coleman 2000), although subsidence has already proved to be a problem for the one prison already built on a valley-fill site.

In addition to the removal of land value from land ownership, pre-mining uncertainty further devalues the land. At any time, the mineral owner could arrive to extract the minerals. With the advent of surface mining, this extraction is capable of

effectively removing all surface use and value in the area where the mining takes place. The surface of the land can still be bought and sold on the markets, at least in name. However, as the primary value (coal) and the secondary value (stability) have been stripped from it, it will maintain minimal market values. Therefore, the markets operating on the surface often oversee the sale and purchase of at best a very low value commodity and at worst a worthless or potentially worthless commodity. The land markets exist more as a traditional form than one that serves a current economic use, because there still has to be some way to transfer a piece of land from one person to another. "There's a great need in West Virginia for flat land," stated West Virginia Development Office deputy director Dana Davis (Warrick 1998). However, little of the flat land created through mountaintop removal mining is going into economic use.

The mineral rights could have evolved as a commodity that circulated in its own markets, but they did not. Rather, they became folded into the corporate form. Early in the history of accumulation in the region, mineral rights were bought and sold, but as time passed, they became concentrated in fewer and fewer hands, as energy companies developed portfolios. The region has seen waves of corporate consolidations. One followed the Civil War, representing the restructuring of West Virginia as a rural industrial state away from its Virginia agrarian roots. Another occurred in the early 20th century, as the railroads began to consolidate with mining companies. As natural gas reserves began to be extracted in the 1950s, oil and gas companies became a presence in the region, combining their portfolios with coal to achieve resource diversification (Rice 1985). The mergers and acquisitions wave of the 1990s further led to coal industry consolidations into the greater energy companies (U.S. Army Corps of Engineers, U.S.

Environmental Protection Agency et al. 2003). The illustration below in Figure 7.2 shows the locations of the landholdings of Massey Energy, one company which engages in mountaintop removal mining. These mines are very large, and in some cases take up much of the area of the county in which they sit.

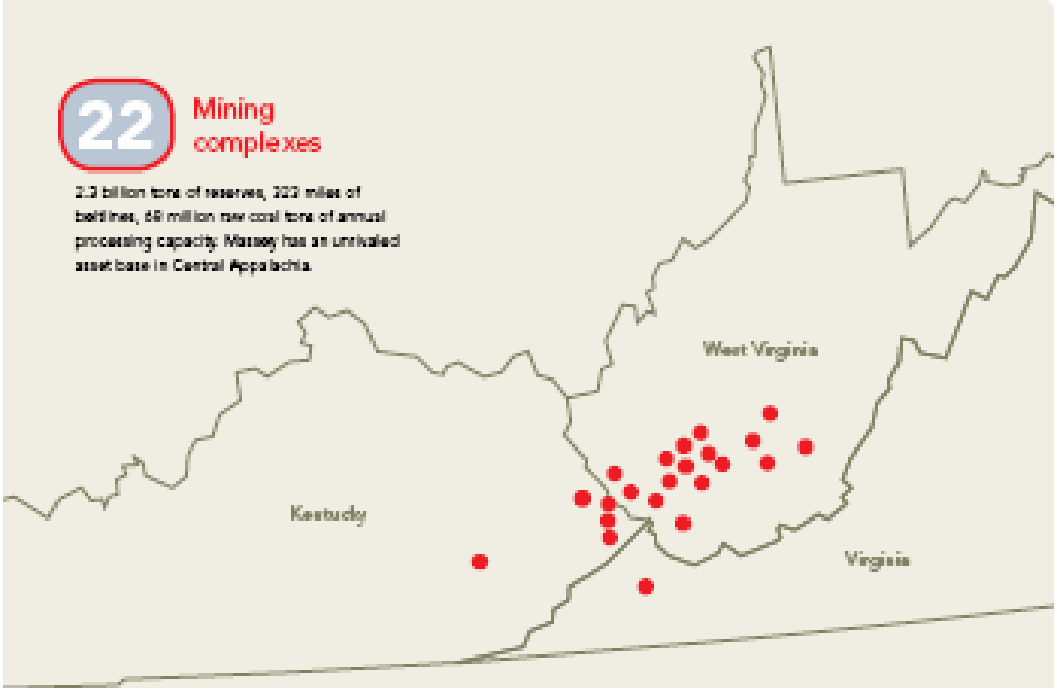

Figure 7.2: Massey Energy mining complexes
Source: (Massey Energy 2006)

The titles to the land do not illustrate this picture and will list a number of different institutional owners. However, corporations today are owned by other corporations and a tracing up the institutional ladder of ownership illustrates that ultimate ownership is nowhere near as varied. The land holdings have become the purpose and value of the smaller corporations that technically own the minerals or the land (which both translate into the same thing – the bulk of the value of the land). Entrance into this

ownership structure works as a trapping mechanism as each parcel of land becomes a small part of a larger portfolio. From that point on, corporations are bought and sold. However, the land itself does not re-enter the land market, but rather is subsumed into the market for corporations. This pattern of the incorporation of land effectively removes it from the markets for all but the largest of purchasers. It is next to impossible for a small landowner to purchase the mineral rights under his or her land and re-unify the title, because the minerals from that land are combined into a portfolio containing minerals from other lands as well as other corporate assets. The land markets have been closed.

Mountain communities are shrinking. "We used to be 400 houses, now we're 70," said James Weekly, a disabled miner from Blair, a village on the fringe of a 3,000-acre mine site. "One school has closed, the other is closing. The stores have closed. It's time for people to wake up, sir" (Warrick 1998). This image of emptiness echoes through many mining communities in the region. "Eleven families once lived in Pigeonroost Hollow, a two-hour drive from Charleston, the state capital of West Virginia. Now, only the Weekleys and Mr. Weekley's mother, Sylvia, remain. The small valley has the air of a ghost town. Empty houses are being dismantled; others have been gutted by fire" (Tran 1998). This shrinking is tied to the economic depression of the area, which is linked to the dominance of coal, but this shrinking is also tied to the more immediate and physical pressure of being forced out to make room for the mines.

The social understanding of private property shapes the laws that are used to regulate its commodification in the market. At the same time, these rules have enabled the development of land-ownership regimes that have dismantled these markets. It is virtually impossible for a landowner to repurchase the mineral rights that once were

attached to his or her land and reunite the parcel. Even more startling, some of these low-population rural areas are facing housing crunches, as there is not enough land on the market to support single-family homes for even the existing small, rural populations (Appalachian Land Ownership Task Force 1983).

Thus, the region has seen a series of market failures: not incorporating environmental services, not setting values for the land, and not allowing open transfer of the estates – either surface or mineral. In short, the existing markets do not perform any of the regulatory functions that markets are supposed to serve. The multiple failures are tied to the physical qualities of the land, the commodification and material construction of the land as a mining resource, and the choices of property law and regulation to set the rules of private ownership. Instead, a façade of markets sits overtop of a non-market system for land.

Economic and environmental change

Land, property, and the environment operate in multiple and fractured ways, which do not fit within traditional (neoclassical or Marxist) explanatory models. However, this fracturing itself is a tool of capital, and serves to enable intensification in accumulation of nature. The case of Appalachian coal lands shows one way that a conjunction of the complex characteristic of property works along with the materiality of land to create the result of uneven development and environmental change.

In the 1970s, the Appalachian Regional Commission (ARC) formed the Appalachian Land Ownership Task Force, a group that chartered community members to work with local universities in each of the Appalachian states to survey land ownership patterns, in order to find linkages between those and the underdevelopment in the region.

The various survey groups found that throughout the region, the majority of lands were held as coal lands, with timberlands running in second. Out-of-state or absentee corporations were the primary owners of these lands. At the time, the top eight counties with corporate mineral ownership were all in southern West Virginia (Appalachian Land Ownership Task Force 1983: 27). In straight surface ownership, the top four counties for corporate ownership were all in southern West Virginia – with corporations holding between 62.5 percent and 75.9 percent of the total county surface area. Today, these four counties, McDowell, Logan, Raleigh, and Mingo, are in the heart of the area where mountaintop removal mining takes place. The Appalachian Land Survey shows a contemporary pattern of concentration of land in the region into coal holdings. While the survey is from the mid 80's, the ownership patterns therein have not changed.

This concentration has driven economic underdevelopment in other areas and a dismantling of the land markets. Meanwhile, the survey fails to capture fully the multiple (horizontal and vertical) ways that land is legally owned. The legal forms of land ownership, which enabled the initial primitive accumulation, today complicate land holdings and have potential to work in multiple ways. This fractured nature of ownership does not fit with traditional market explanations, and rather a new model of multiple markets, privatizations, and commodifications needs to be developed. Together these forces lead to an intensification of both primitive and capitalist accumulation in land and nature – which is paired with the growth of large-scale mining. Property law creates an interactive feedback loop (Platt 1996: 27) where influence is a constant and multi-directional activity between legal, cultural, and physical interactions with land. The law

itself, through its fractured and multiple nature, has created a fractured and multiple land ownership regime, as discussed Chapter 6.

The survey illustrated the results of concentrated land ownership, the most prominent being lack of or insufficient taxation to run state and county government functions – such as schools, roads, and water supplies. This lack of infrastructure has barred businesses that could potentially compete for labor from entering the area, as no land is for sale to open factories or offices, and even if the land were available, the governments cannot pay to run roads and utilities to the businesses. This led to an overreliance on the coal industry and increasing unemployment levels (Kublawi 1987). Additionally, the surveyors found that much of this land was not available to be bought and sold, leading to housing shortages in a rural area that should not have had them – because land for housing plots was not for sale at any price (Appalachian Land Ownership Task Force 1983). Agricultural acreage is also on the decline. The pattern has resulted in a shortage of land on the markets, unusual for rural areas.

This survey was published in 1983, and has not been updated since then[23]. However, general economic trends in the United States show that it is unlikely that this concentrated private ownership has lessened. Appalachia was greatly impacted by the wave of consolidations of coal companies (Gillian, Yon, and Vass 2000). In fact, through the mergers and acquisitions of the 1980s and the growth of coal holdings by oil and gas companies of the 1990s the amounts of land held by large absentee corporations has grown. This consolidation is paired with an increasingly national approach by the coal companies to regulation of the industry (Elmes 1996).

[23] Since that date, the federal government has engaged in a nearly constant reduction of funding for the Appalachian Regional Commission.

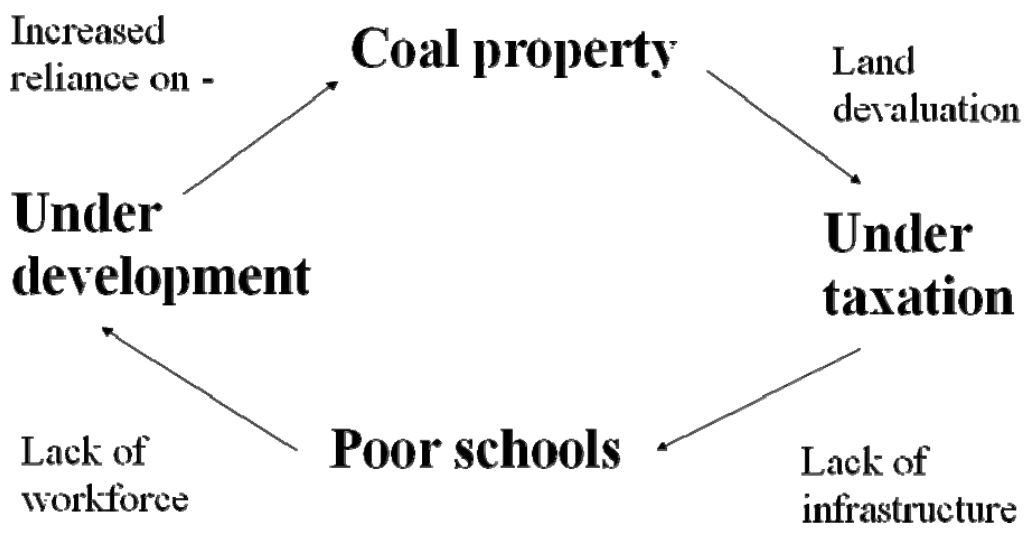

Figure 7.3: Interactive feedback loop of land concentration and underdevelopment

The events measured by the land survey are connected, and they tie together in the form of an interactive feedback loop, illustrated in Figure 7.3. First, coal interests accumulated a large amount of land. This land became taxable at the rural non-farm rate, which is the lowest of all property tax rates. In addition, while the coal is taxed upon severance from the ground, these tax rates are set relatively low. A sample comparison of federal, state, and local taxes paid by the mining industry can be seen below in Figure 7.4. Counties and communities get the largest portion of their taxes from property taxes, and this movement into coal holdings lowered the tax base. With less income coming in through taxes, communities lacked money to build infrastructure and provide government services – particularly in education. This, in turn, hurt any businesses other than mining operations in the area, as the government could not provide them with necessary services, and could not provide skilled, educated workers from a weakened educational system.

Taxes	Total Mine Life Cost	Cost Per Ton of Coal
Personal Property Tax	$3,132,574	$0.19 per ton
Worker's Compensation	$5,559,085	$0.34 per ton
Matching FICA	$3,097,378	$0.19 per ton
Unmined Mineral Tax	$1,173,000	$0.07 per ton
Franchise Tax	$504,390	$0.03 per ton
Severance Tax	$20,290,033	$1.24 per ton
Black Lung Tax	$8,747,264	$0.53 per ton
Federal Reclamation Tax	$5,566,431	$0.34 per ton
WV Special Assessment	$819,798	$0.05 per ton
Federal & State Income Tax	$9,183,734	$0.56 per ton
TOTAL	**$58,073,684**	**$3.54 per ton**

Figure 7.4: Taxes by total mine life cost and cost per ton of coal
Source: (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency et al. 2003)

This weakened local government has increasing difficulties providing for its citizens, and thus the quality of life in the region drops. As businesses in the region suffer, they move out and others do not move in, which leads to a general economic decline. In turn, some people move out of the area seeking jobs, selling off their land. Other people have problems supporting themselves and have been forced off their land holdings. Generally, the main buyer for these properties is the one successful industry in the area – coal. As such, coal interests purchase greater land holdings, increasing their control and decreasing the operability of land markets, and the entire cycle continues to grow more extreme. "The coal industry has been the dominant political and economic force in West Virginia for a century. If it were going to show us the way to the economic promised land, wouldn't we have been there by now? If the West Virginia economy is a mess, the list of suspects is not all that long" (McFerrin 1998) (letter to the editor of the *Washington Post*).

While coalmines have been growing, the number of people employed has steadily shrunk, lessening the local benefits felt by the operations of the mines—both as salaries paid directly and through the related impacts of local spending and income and other taxes. Thus, tax payments fell while local communities had to provide more services to their unemployed residents. According to the *Charleston Gazette*, "Coal companies were ravaging the mountains, burying the streams, producing record amounts of coal with record low numbers of miners. The state was giving away the store and asking nothing in return" (Mining Ruling didn't stop permits 2000).

Generally, land is assessed for taxation at the times that it enters the market. However, once purchased, these lands generally do not re-enter the market. Instead, the landholding or mining companies that own the land are themselves bought and sold. Thus, the land is often assessed at far less than market value, precisely because there is no operating market to set the value. As it does not re-enter the market, the land is never re-assessed, especially as under-funded county governments cannot afford to place assessors on the ground to value land that is not bought and sold. A lack of general churn in the markets means that even lands that are bought and sold are not valued in a way that reflects economically valuable properties. This concentration (combined with widespread government corruption) has led to the political systems in West Virginia being run de facto by the coal companies. In turn, this political situation has led to additional undervaluation of property for taxation purposes and small severance taxation. All of these problems tie to a particular political economic structure. Extensive privatization of land ownership (through either surface or mineral ownership) worked to shut down the markets for land. These markets trigger assessments and taxation, and

without them, local governments were unable to collect funding for further development. The locked ownership of land also prohibited additional (non-mineral) private development in the area.

Rather than the land being bought and sold, the companies holding the land are bought and sold, creating a highly indirect market for land that does not fully include land valuation. Land is valued solely as part of larger corporate holdings and its main value is rooted in the resources that it stores for later extraction. However, without the markets to regulate the price of land for either sales or tax assessments, the land becomes progressively more undervalued. Privatization with limited marketization has become the norm for the region, and links to political and economic patterns that favor the large landowners and coal companies to the exclusion of others. The land itself is separated from its main current economic value, the minerals it holds. Markets are only operative for that coal value, and only at a remove from the land itself. This model works for the coal companies alone, and not for the communities in which they operate. Actions of the communities are shaped by their raw dependency upon the coal industry.

As this cycle continues, communities and environmental groups occasionally manage to slow the operations of mining. The standard reaction from the mining industry is a threat to close mines and lay off workers. When homeowners won a lawsuit challenging mining operations at another mine, an Arch Coal executive hinted that 387 employees at the Dal-Tex operation near Blair might be laid off (Jobs still in jeopardy at Logan mine following lawsuit settlement 1998). At the time, the Dal-Tex mine was the largest in the state, and when I visited Blair in 2004, a large mine was still operating there, but the sign did not read Dal-Tex. Dal-Tex was the largest employer in the county,

but its employment numbers are not standard in the industry, where most mountaintop removal mines employ only a dozen workers (Peeks 1998).

In turn, threats to employment provoke a strong negative reaction by many residents, who need the jobs provided by the mining companies: “I have family who live within walking distance of the Dal-Tex mine in Sharples. I never once heard them complain about it. The whole family depends on the mine for jobs” (Hanshaw 1998). These conflicts over the value of mining to the economy are especially value-laden in this economically depressed region. Karen Hubbard of Peytona advocated support of mining as a family-values issue, “They're hurting school kids, too, because a lot of miners contribute to schools” (McElhinny 1999). Threats to the mining industry are perceived as threats to the traditional ways of life in the region, as another letter to the editor lashed out against environmentalists:

> It's not fun worrying about when you're going to lose your job and what's going to happen to you and your family when you do. My husband works on a strip and we are totally for mountaintop removal and the coal industry. The tree huggers should leave the coal mining industry alone and let people make an honest living (Smith 1999).

In addition to the individual dependence upon mining for jobs and livelihoods, local government depends greatly upon the industry as both the major industrial base and the major taxpayer. “If the mining process is stopped or impeded, Logan County would suffer devastating consequences,” said Paul Hardesty of the Logan County Commission. “The county commission is not saying coal mining is perfect. But we cannot lessen the degree of dependence on coal that currently exists” (Ward 1998). Senator Robert Byrd of West Virginia dismissed mining opponents as unrealistic, saying, “These head-in-the-clouds individuals peddle dreams of an idyllic life among old-growth trees, but they seem

ignorant of the fact that without the mines, jobs will disappear, tables will go bare, schools will have no revenue to teach our children, towns will not have the income to provide even basic services" (Mining: Despite Byrd's efforts, W.Va. faces a cloudy 2000 1999).

Coal and coal-fired electric utilities paid 60 percent of all state business tax in West Virginia in 1996. In that year, mining companies employed 21,296 miners and 33,000 mining contractors, as well as additional jobs in support functions (Peeks 1998). These numbers fluctuate greatly, depending on who is measuring them and what is measured, as a 2000 study found only 15,000 coalminers employed in the state (Lipton 2002). While some contributions are made to the local tax base, many of the larger coal companies are incorporated out of state, pulling substantial business taxes out of the region (Coal ads tout mountaintop mining's benefits 1998). When a moratorium was placed upon the issuance of new mountaintop mining permits, West Virginia estimated this would cause a 25% drop in coal production, resulting in a $100 million loss of state and local taxes (Hohmann 1999). Additionally, that action caused the stocks for major coal operators to fall, and triggered a devaluation of their prospects by many market analysts, sending impacts out of the region (Hohmann 1999).

This type of dependency also produces a fight-back reaction that credits the coal industry not only with the control is does have, but a wider reach even than that. One letter to the editor of the *Charleston Gazette* declared:

> Now that Arch Coal controls the governor, the Legislature, the congressional delegation, and 80 percent to 90 percent of the West Virginia media, I expect this Associated Press story any day now: 'Arch Coal gives *Charleston Gazette* an ultimatum, fire Ward and Radmacher[24] or else no more full-page mountaintop mining ads.' Already, Arch has the UMW, the church groups and some environmentalists so terrified they won't buy and show the Gates video "All Shaken Up" or endorse the Valvoline boycott to put pressure on Arch and other earth rapists. (Frazier 1998).

Another letter to the editor accused coal operators of Mafia tactics and compared them to terrorists, "'Your environment or your jobs—and sufficient tax revenue to keep the state running.' They're not bluffing, they're just lying. They mean to destroy both" (Harless 1999).

These impressions are not helped by governmental actions that seem to deliberately protect the coal industry, as when West Virginia Governor Cecil Underwood disbanded a group created to write legislation covering mountaintop removal mining hours after the panel removed coalfield residents from a supposedly public meeting (Ward 1999). The control that the mining industry exerts over the region is largely credited to their economic power, and through lawsuit settlements, they have effectively been able to close down many challenges. Harry Hatfield, one lawyer representing clients who pulled out of a lawsuit against Arch Coal accepting a $250,000 settlement and agreeing to file no future charges against the company[25], expressed his misgivings, "I still have many of the concerns I had before, but whether it's worth the price we're going to pay down here, I don't know anymore. It's a terrible price to pay for the 300 or more people who are going to lose their jobs," Hatfield said (Staff writer 1999).

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[24] Ken Ward, Jr. is the award-winning environmental reporter for the *Charleston Gazette* who has covered mountaintop removal mining for years. Dan Radmacher was a reporter and columnist for the *Gazette* for ten year, and has since moved on to the *Roanoke Times*.
[25] This clause is standard in coal industry settlements.

While many people support the coal industry for the livelihoods and development that it can bring, others view this as a vicious cycle of local underdevelopment and profits flowing out of state, leading to the deaths of small communities that have long been central to the regional way of life. Another letter to the editor read, “Most of the profits from these coal operations go out of state to Virginia and California, where the CEOs and presidents don't have to worry about losing their homes” (Stewart 1999). Others see nothing but broken promises in the coal company’s actions:

> The truth is that coal corporations have now totally breached the somewhat jointly prosperous—if one-sidedly grisly—social contract with the state's citizens: Go ahead, kill us, maim us, destroy and desecrate our natural and living environment, control our government, warp our society, but give us a relatively large number of good-paying jobs. . . . We should proclaim that we and our children shall no longer endure this dictatorial sway over our land and our lives. (Harless 1999) (letter to the editor in the *Charleston Gazette*)

A temporary shut-down of mountaintop removal mining caused Logan County, West Virginia to face a $600,000 budget shortfall and lay off a quarter of the county’s workers (about thirty employees, mostly mechanics and janitors) (LeRoy 2000). “Because everything in Logan County is coal-related,” declared Commissioner Willie Akers (Messer 2001). Mingo County, West Virginia, is another hard-hit area; with 10% unemployment, the hopes of new industrial development drive the county to welcome mining, “In January, when the hardwood-flooring plant is running, we should have a total of 120 to 130 people working. These are good jobs. They pay $8 to $14 an hour, they include a hospitalization plan and there is a 401(k) retirement plan” (Hohmann 2000). Another Mingo County site is being turned into an 18-hole public golf course, the Twisted Gun Golf Course (Messer 2001). Of course, there are questions about how many golfers live in Mingo County, one of the poorest counties in one of the poorest states in

the United States. This course is described as “links-style” which means that no trees needed to be planted as part of the reclamation process, only the construction of structures that resembled sand dunes. For a depressed county, this development at least brings in a few jobs and a small amount of economic diversification.

Opponents of mountaintop removal mining draw another picture. They see the trend as longer standing, with 100,000 mining jobs lost to mechanization before mountaintop removal entered the picture, and a recession that has been in place for 15 years in the state. “Until the truth—that this is all about industry and corporate greed—is reported by the media, then the future of our children will be lost to very short-term gain” (Bonds 2000). “While coal industry employment has shrunk from 10 percent of the state's work force in the mid-1970s to less than 3 percent today, even the remote possibility of losing 18,800 jobs that pay an average of $50,800 a year is enough to give every politician in the state nightmares” (Bowling 2000). Meanwhile, miners can move to Wyoming, where Arch coal pays over $23 per hour, if they want to leave land, landscape, and community behind, a very difficult choice even when mining jobs in Appalachia can pay as little as $9 per hour (Messer 2001). The stability that both mining and property purported to bring is nonexistent; rather what has been brought is disorder, change, and destruction.

Conclusion

Privatization and marketization are separate processes. While commonly working together, they do not have to. This failure is troubling, when markets serve as the justification for privatization. In this case, the markets have ceased to fulfill most of the purported regulatory functions of markets—in setting values and allowing exchange of

the commodity of land. Without the markets acting as a regulatory check on private property ownership, unstable events happen. In this case, private ownership expanded over most lands while simultaneously concentrating in the hands of just a few private owners. This concentration, in turn, led to not only a variety of social consequences such as economic underdevelopment, but also created a structure in which further privatization takes place.

"Contemporary Marxist analysis of capitalist-nature relationships refer to *several* linked but not necessarily synonymous things when they use the term commodification" (Castree 2003: 274). This study decouples the processes of commodification, privatization, valuation, and marketization, illustrating their interactions and failures over the resource of land in the extractive context. It takes Castree's advice and incorporates the multiple materialities of nature (2003), as both social-nature and bio-physical nature are implicated in and changed by this particular capital-nature system. In doing so, this chapter rises directly to answer Castree's call, "We need to know just what, precisely, is *wrong* with the capitalist commodification of specific natures and *why*" (2003: 289).

What is wrong is that when supposedly linked processes are subjected to close examination it turns out they do not work together, and when they do, they work together in irregular ways producing results quite different than they are theorized to do. Privatization and commodification of resource land have not resulted in the land entering the markets. Markets have not resulted in setting exchange values. In this case, all value is shifted to one small part of the land, the coal that it holds. This value becomes so important that it eclipses all others, and use value, social value, and biophysical value all disappear. In turn, this devaluation enables their destruction—because destruction of

something worthless is not really destruction at all. This is the *why*. This particular process enables resource extraction and accumulation by removing all obstacles in the path to that narrow goal. In order to commodify part of nature, the rest of nature (along with the parts of society tied to it) is erased.

CHAPTER 8

CONCLUSIONS

> This isn't about mountaintop mining. This is about the future of mining in West Virginia. - United Mine Workers President Cecil Roberts (LeRoy 1999)

This work and these stories are not about mountaintop removal mining and they are all about mountaintop removal mining. This story is about the complexities of the singular entity that is simultaneously fully social and fully environmental. A variety of complex social systems are at work, but at many points those social systems fluidly become environmental systems. The extraction process fits solidly within the realm of capitalism, but it exhibits utterly non-capitalist characteristics, which the system addresses by erasure. The legal system, as well as other social systems, reacts to contacts with the environmental by adopting some of the same patterns of complexity inherent in the fully natural. At every step, these patterns produce material results in both social and biophysical ways.

Complex change in complex systems

How coal is mined is a societal choice. While choice implies unlimited possibilities, in actuality it is much more constrained. The previous choices made by a society shape and limit future choices. In this case, society has set up a regime of private property. Within the Appalachian coalfields, this property takes a particular form of large, consolidated holdings controlled by entities holding the corporate form. This

particular choice was not random, but was forced by the particular workings of the ideals of private property as developed in place. Here, the result of a system of total privatization of property is mountaintop removal mining. No other choice could have been made.

The processes narrowing down to this single choice are not monolithic, unified movements. Rather, they form out of a created chaos and complexity. Legal, economic, social, and political systems all tend toward disorder and create disorderly systems. This disorderliness, however, lends power to those controlling the greatest amount of resources, for only they can devote the time and money to make sense out of chaos and make it work for them. It also creates a situation that encourages rapid exploitation of the land: because change can happen at any moment, the rational course is to get the coal out while the getting is good.

Over time, markets for land were disabled and the valuation mechanism gutted. The process of setting up a private property regime without markets took place gradually, through waves of primitive, capitalist, and mixed-character accumulation within a structure of evolving property law. These waves create a private property structure that relates to the external world in a neoliberal fashion, however, internally the structures more closely follow feudal landownership patterns than anything else. A landed class controlling resource lands, often located outside the region, holds the value in corporate structures, which, while fluid on the global markets as corporations, are immobile on the local markets as parcels of land. This type of concentrated ownership has enabled the expansion of mine size and the growth of mountaintop removal mining, which, in addition to extracting all of the marketable value from the area renders land incapable of

supporting any economic use. It is a permanent extraction of value from a commodity, land, for which the markets are supposed to promote sustainability through the doctrines of highest and best use. In the region, the land markets have not operated in many years. Mountaintop removal mining completely ends any opportunity for land markets to work, creating value-less land that is largely incapable of any economic use within the foreseeable future.

Under this system, the mines will grow large and quickly to create maximum destruction. In ways, this has brought about Margaret Thatcher's death of society in the creation of a neo-liberalized world where private property reigns supreme and the state (or in this case local government) has become completely removed from most issues of governance, through an inability to govern. However, this was achieved through an internal dismantling of markets for land itself as a whole commodity, which enables those markets to exist in the world surrounding the region. While the land is not regulated by the markets, many other related items are; coal is marketized, and coal companies are bought and sold. Thus, the markets are created to work only in certain narrow paths, and circulate within the global neoliberal capitalist system and not within the local economies. This case shows a "radical transformation in the dominant pattern of social relations and a redistribution of assets that increasingly favored the upper rather than the lower classes" (Harvey 2003: 159). It has enabled increasing waves of accumulation through a devaluation of assets that makes the region valuable for investment from outside, and nearly eliminates any competing investment from arising.

If this is an inevitable result of capitalist change, it is a temporary inevitability—because the only truly inevitable thing is change itself. The regime as it exists today is

only one step in an ongoing process of disorder, flux, and change. The prior, monolithic view (of property, law, etc.) creates a system too powerful to be broken. Institutions of both law and property hold themselves to be completely logical, consistent bastions of order in a disorderly world. This façade hides their disorderly and even chaotic workings, and this disorder means that change will happen. Agency action is becoming paralyzed; miners are unable to plan future operations; and citizens, whatever side of the issue they may stand on, are becoming restless. At the same time, floods are increasing, species are falling away into extinction, and forests that once held carbon are disappearing to be replaced by far less biologically productive grasslands. These are not separate processes, but one and the same, tied together through an elaborate series of interactive feedback loops.

Property law, even from its early days and more than other branches of legal study and application, exhibits characteristics of chaos and complexity. Other bodies of law can be boiled down to basic principles for instruction in the law schools; as contracts became a study in consensual liability, fairness, and utility; torts became a study of nonconsensual liability, fault, and causation. Meanwhile, property was a mix of principles related to a mass of key ideas: intergenerational transfer, tax, land use, transmission of wealth, planning, development, and public intervention in private property, without a unifying principle Even land use failed to provide adequate linkages between these disparate areas (Ackerman 1975). This internal complexity of property law combines with its common law tradition and the realities of conflicting jurisdictions to create a system of feedback loops that maximize complexity, while working as one part of other feedback loops.

Feedback loops, while intensifying both the control and damage, offer more hope than the monolithic ways we have viewed these systems before, because they treat socio-environmental systems as open and in-process, rather than solid and never-changing. At any of the many stages of any of the many processes, change can happen. Even if these changes are small, as they operated in a chaotic system, these slight changes can lead toward untold other changes. This change is not limited to human agency, but allows for environmental actions as well, particularly as local tipping points may be reached which cause the systems themselves to change their patterns of action.

Resistance and hope for change

Today, community members and activists are starting to learn how to deal with complexity. The power structures created around the links between the mining industry and the political machine shaped the character of resistance to mining in Appalachia. Appalachia industrialized as a single-industry economy (coal or timber, depending on the region). The mineral owners established a pattern of setting community against community—from friendly baseball games to direct competition for jobs and livelihoods (Cable 1993). This structure made collective resistance extraordinarily difficult, and so resistance evolved on a more individual level (Fisher 1993). The monolithic presence of law, property, and capitalism deterred resistance. People resisting any single issue realized that they could never fight on just one issue; they had to challenge the entire system (Bingman 1993). Many found this task to be discouraging, and left resistance efforts. Others found it empowering and a way to attempt to achieve real social change. These interlinkages and entwinings do not mean that one person has to stand against the world; they can also mean that one person's action in one small place can reverberate

upward through the system. Economic oppression produces quiescence (Gaventa 1982). But, where collective resistance is disabled, individual resistance can emerge as an alternative (Cable 1993).

Stories of individual resistance are passed around, taking on nearly legendary significance. One of the most famous is of old Dan Gibson of Clear Creek, Kentucky. In 1965, this elderly gentleman took his rifle and faced off against coal company bulldozers that were crossing his property line. He voluntarily turned himself over to the police, in exchange for a promise that the bulldozers would not enter his land. However, the next morning the work crews returned, and this time they found the property line guarded by a gang of senior citizens and women with guns. The land was never mined (Montrie 2003). This type of approach has led to some interesting local-specific forms of protest. In Kentucky, one type of protest involved the formation of Mountaintop Gun Clubs. The "gun club" leased land set to be mined from the surface owner for $1. They set up a firing range on the land (Montrie 2003), which served a variety of purposes. First, it provided the surface owner with an economic use on the surface. Second, it placed armed people between the land and the mining operation. Third, it posted a lookout to report on mining activity, since mining companies were rarely required to give the surface owner notice of planned activity.

These acts of individual and group resistance give hope, especially when they take place within complex system. The characteristics of both complexity and interrelatedness create multiple places where action can lead to concrete change, and where even small actions can have linked effects through the system, which have the potential of creating expanding feedback loops. This dissertation, in cataloging parts of

these linked systems, creates a list of areas where systemic change potentially can be started. I hope that the effect of this is to make the system less monolithic, opening the doors to multiple potential actions and multiple potential changes.

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